**CVI TVI Tina G Part 1**

YVONNE LOCKE: Welcome to CVI for the TVI and other professionals, our monthly presentation and discussion around the topic of CVI. My name is Yvonne Locke, and I will be your moderator for today's presentation-- teaching strategies and resources for sensorimotor stage learners, part one, with Tina Gutierrez, which will begin in just a moment.

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In today's webinar, we are talking about creating active learning opaportunities for individuals with CVI who are sensorimotor stage learners with Tina Gutierrez. Tina is a certified TVI, employed as an Education Consultant II for the state of Connecticut, ADS, Bureau of Education, and Services for the Blind. She has been a member of the Children's Services Special Services unit for the past 14 years, supporting students age 3 to 21 who have significant multiple disabilities, in addition to vision impairment, including students with CVI and/or deafblindness. For the past seven years, Tina has also been the chairperson of the BESB MIVI Training Committee, which collaborates with the New England Consortium Deafblindness project, to bring relevant training opportunities to the education teams and families of students in Connecticut who are MIVI.

In part one of this presentation, Tina will briefly define learning, as it relates to students who are sensorimotor stage learners, and share ideas and resources for creating active learning opportunities for students with CVI who are sensorimotor stage learners.

TINA GUTIERREZ: Thank you, Yvonne. So hi again. My name is Tina. We're going to be talking about creating active learning opportunities for students with CVI for sensorimotor stage learners. So essentially, we are going to talk about creating opportunities for our students to make connections in their world, so that they develop coherence. And developing coherence is essentially the feeling that you understand what's happening in your environment. So that's our ultimate goal in creating active learning opportunities.

So we're going to start with talking about some of the implications of having vision loss in addition to multiple disabilities. So what happens is, our students tend to shut down due to the overwhelming amount of multi-sensory information that's being thrown at them. They're not sure what's important to pay attention to. They're not sure what they should ignore. And they ultimately shut down.

Oftentimes, they receive information that is disjointed or incomplete. And this information doesn't have any connection to a concrete experience with the student. Our outside world actually does things to our students and for our students instead of with our students. So it's almost like our students have a fairy godmother. People and materials magically appear from nowhere. These same people, and materials disappear into nothingness. And things appear and disappear without any effort or action initiated by the student.

So again, from the student's point of view, the people in the outside world come at them without any warning, is that inventing-- to learn that this outside world is unpredictable, and is a scary place. So ultimately, they begin to retreat back into themselves. They become less motivated to explore their surroundings. And this limits their-- limits their experiences and opportunities for learning.

Our students retreat into themselves. Their bodies become a self haven. And this withdrawal results, is the result of experiencing too much incoherence in students with combined vision and hearing loss, or vision loss with additional disabilities, who often live in a world that is incoherent.

So what is learning, and that applies to students who are sensorimotor stage learners? Research in cognitive psychology and neurobiology tells us that essentially, learning is a process. The first step in this process is the acquisition of sensory information. , So if our students do not acquire high quality sensory information, learning stops right there.

The second step in the process of learning is the storing of the sensory information. And then ultimately learning is when a student is able to retrieve and use this sensory information.

So for our students who are sensorimotor stage learners, the primary behavior of learning for our students is exploring. So our learners are seeking out information about the attractive things in their environment. And they are ultimately asking these two questions about these attractive items. They want to know, what is this item like? What does it smell like? What does it taste like? What does it look like? What does it sound like? And what does it feel like? And then secondly, they want to know what does this attractive thing do?

So as our students begin to explore their environment, they take the sum of what the item is like and what it does, and that becomes their knowledge. And this knowledge is the basic concepts that help our students understand their world. So our goal as members of the education team is really to provide our students with high quality sensory experiences, so they are able to make sense of their world and develop this coherence.

Students. Who are sensorimotor stage learners are exploring their world through touch. So touch really is the primary sensory system used at this stage of development. And this is the case regardless of whether the student has limited volitional hand movements, and regardless of the student's physical status. And the reason for this is because skin is the largest organ in the body. Skin is most sensitive on the fingers, but also on the lips.

Our students are exploring with touch because again, skin is the largest organ in the body. It is, they are not limited to hand use only. This is important, too, to think about. Because some of our students have had early experiences with doctors or hospitals that were not pleasant. And so they're not quite willing to put their hands out into the world.

But that's OK. Because our students are not limited to exploring through hand use only. And so some of the ways that tactile learners in general, what they need to do to get enough information about an object to identify it. There is a lateral movement, which is the back and forth movement of the fingers, or the back and forth movement of the lips, the tongue, the foot, or the toes. They have static contact for temperature. So again, a student could leave their hand on an item to get information about its coolness. But they can also leave a mouth or a foot on something long enough to get the same information.

They use unsupported holding. And this is holding something in space, to get a sense about how much it weighs. For our students, we can put objects into their laps to get this information. There is enclosure-- they want information about the global shape of the object. Again, we can do this by placing objects into the students' laps, or thinking of other ways to give them this information. They use pressure to get an idea about how hard an object is, or how soft an object is. And they use the contour following, which is taking the tip of one finger or the tongue, and actually following around the edges of an object, and following the different internal detail characteristics, to get an idea of what the object is.

So in this example, we have four pictures of a student who is using his feet to explore a textured rolling bar. And just a little background information on this student-- this student is actually functioning in mid-phase two at the time these photos were taken. He has deafblindness. So he also has a hearing impairment.

Right before these photos were taken, he unfortunately had a retinal detachment in his left eye. His left eye was the dominant eye in gap visual information. And he was at a point where he was very willingly reaching out to materials in the environment. And he was starting to move his body toward attractive items.

So once his retina became detached, he withdrew into himself, which is understandable. I'm sure there was pain, light sensitivity, and just he wasn't getting as much information as he had in the past. So he was no longer willing to put his arms out, put his hands out into space, to see what's there.

So we took this textured roller, and we put it underneath his feet. His feet have no socks, no shoes on. And you can see in these pictures, especially if you look at the way his toes are bending, the amount of pressure he's putting on his feet to really explore the texture of the bar. In the next set of four pictures, you can see that he's actually taken his foot, starts with the heel of his foot, and rolls his foot, the whole length of this foot, against the texture, all the way up to the tip of his toes. And he rolls them back to his heel. So this is just it's a nice example of showing you that exploring through touch doesn't necessarily mean only with hands.

And so some questions that people ask frequently are, what if a sensorimotor stage learner has a severe motor impairment? And what if the learner isn't able to use their hands for exploration? So Millie Smith answers to these questions in the following way. She says that we will need to present that object up on the side of the face of the learner. We want the learner to be able to move his mouth toward the object and explore it with his lips and the tip of his tongue.

So again, the goal for all the members of the education team is to provide high quality sensory experiences, where students can make sense of their world. We want them to develop coherence, the feeling that they understand what's happening in their world.

So we're going to start talking about the active learning approach, and how active learning helps our students develop coherence. So the active learning approach was developed by Dr. Lilli Nielsen from Denmark. And essentially, the active learning approach states that everyone can learn, in that everyone learns best through active participation, that this active participation actually wires are brains, especially early in development, and that this activity, this active participation, builds the foundational concepts, and builds the skills, that are required for learning in the future.

It revolves around the idea that the learner is being active. And this is really critical. It states that all children are capable of interacting with the physical environment around them, no matter their level of cognitive, motor, or sensory ability.

Because typically, what happens is, due to the length of time our learners require for processing before responding, oftentimes we feel compelled to jump right into an activity, or to prompt a response. And so essentially, we end up jumping in and do the activity for them, and rob them of the vital access of learning, which is actually participating in the activity itself.

So active learning-- the key to promoting self initiated exploration lies in rupturing the physical environment in ways that children can use their unique abilities to exercise control over the environment. So if learning is not taking place, it is not the learner's fault. It is because we have not tuned the environment well enough.

So how are we going to tune the environment? We're going to look at the way we interact with our students. Because we are actually part of our students' environment. So when we're interacting with our students, it's important that we make a conscious effort to slow down the pace of our activities, and to take our time. The students' time is what really matters. It's our job to facilitate concrete connections with people, materials, and the actions in the students' environment. We really need to provide more time for students to be able to process information, to respond to and-- to respond to requests to initiate communications.

The most critical piece is, we need to be able to wait, wait, and wait, and to do so quietly. And I believe that waiting quietly is actually a really difficult skill to be learned. Because I think most people, if we're sitting in quiet, it can be hard for people to sit in quiet. And so they feel they need to fill the space. Sometimes, our people who work with our students, especially our peer professionals, feel like if they're being watched, and they're sitting quietly with a student, that learning is not actually taking place, when they're actually doing the right thing, which is providing the quiet wait time. So it really is a difficult thing for people to do.

So at the bottom of our screen, we have a colorful snail. And so I'm going to press the button to make the snail start to disappear. And what I would like you to do is just take a moment, without looking at a watch, without counting to yourself, just to sit in quiet, and watch for the snail just disappear completely. And then think about how long, how long that time felt to you. So I'm going to press the button now. And the snail's starting to disappear now.

And the snail is completely gone. So take a moment to just think about how did how it felt to sit quietly, and to think about how much time do you feel passed? And so that was actually 15 seconds. It took the snail 15 seconds to disappear completely.

When we think about cortical visual impairment, we know that essentially, it's about complexity. It's about the complexity of materials, the complexity of the environment, and how the two go together. So again, we are part of the students' environment. So we need to think about if we are too visually complex.

Often, when we are working one-to-one with the student, we become the background. So it's important that we consider the patterns of our clothing, the colors that we're wearing. I often suggest that a teacher keep a black apron or a large blank t-shirt in the classroom that can just be tossed on over your clothing when you're getting ready to work with a student with CVI. It's important, too, be cautious of anything you wear on your wrist, if you're wearing bracelets, or maybe a watch. Our students' visual system is so fragile at this point. We're thinking about students in phase one, who are just working on developing visual behaviors. So any inadvertent touch by a watch or a bracelet, or any kind of jingle, could actually disrupt their fragile visual system.

Think about if you're wearing perfume or cologne, and how that might impact your student. I have a quick story to share with you, just to demonstrate what we mean about checking out if we are visually complex. So a few years back, an art teacher was doing a holiday art project. She was working with a student with CVI. And so the art teacher was doing a beautiful job of providing quiet wait time. The teacher was adding movement to the object, because movement helped the student alert to the visual target. And so even though she provided the student with ample wait time, the student just wasn't responding.

So I happened to be observing this activity. And so because it was holiday time, the art teacher happened to be wearing a red shirt. And the art project actually involved a metallic red ribbon. So having red against red, you're not-- the student is not going to be able to pick out their target. There's just too much of the same color.

So I walked over to the art teacher and quietly handed her my blank apron. And I said, why do you put this on top of your red shirt? It's going to be hard for the student, because you're showing red against red. So the art teacher did put on the blank apron. And she continued to work with the red bow. She gave the student quiet wait time. She added movement. And then eventually, the student started to giggle, and began to respond. So it really is important to think about what it is we're wearing, and thinking about the materials that we're using with our students.

OK, so when we start to look at our students with cortical visual impairments, We absolutely recognize that each student is an individual. And so we need to complete a high quality functional vision assessment, using the CVI range scale, to determine the student's score, determine their phase, and to really determine the characteristics that impact the student's visual functionally. And once we do that, there is a nice IFSP IEP intervention planning chart and Christine Roman's second edition of her CVI book, An Approach to Assessment and Intervention.

And so once you complete the CVI range scale, the student in this example scored a 1.5 to 2-- meaning the student is functioning in phase one. And we know that a student who's functioning in phase one typically functions with inconsistent attention to the visual targets. It's critical for students' functioning in phase one that they have in iron environment, highly controlled to eliminate competing sensory information.

And then when you think about the materials the student will be using, it's important that the student is working with an object that is a single colored and it incorporates the preferred color. It may need to be shiny or reflective. The object may need to be presented against the simple background. And people may need to realize that a familiar object, the student is going to be able to maintain focus on an object that is familiar more so than a novel target.

So once we've completed the range on the student, again, the chart from the book, we put a Y next to all the characteristics that are still impacting the student's ability to use his vision. Because this student is functioning in the beginning of phase one, really, each characteristic has an impact on the student. But this planning she is a nice way were you to include the specific information about that student, so that everyone has a planning page.

And so what I mean by that is, we know that color preference impacts the student's ability. So when this planning chart, for example, just shown on this page, we have the orange is the student's preferred color. So that's going to be important for people to keep in mind when creating activities is for the student. We know that need for movement is still impacting the student's ability.

So again, in this chart, we put in the individual strategy, which is to highlight the functional object with metallic paint, to consider working with reflective materials. Latency is critical. We need to know how much wait time we should be providing for a student.

So in this sample example, we have that the student requires 45 plus seconds of quiet wait time. It's important to know where to present the target object. So again, this chart is going to show it's that we're presenting it right of center. And it just is going to give us enough information to be able to start planning activities.

So this chart will be something important to complete for our students, when we're thinking about how we're going to create these active learning opportunities and activities.

Tuning the environment-- we need to look at the materials we're using with our students. So on this slide, there are three photos of some different materials that a student might encounter across their school day. So the photo on the left has two big max switches. One has a yellow cover. The other has a red cover.

And so what we've done with these switches is, we've taken metallic yellow tape and put it across the whole cover of the yellow switch, metallic red tape for the red switch, so that-- once, when the student is going to work with the switch, and it's presented on a vertical plane instead of flat, and maybe they turn the lights off and spotlight it with the flashlight, we're going to get some nice reflection and movement, to help the student alert to the switch and know where to reach.

The picture on the right, it's just an example of a student who might be using an elephant or a motor tool. And so we want to give the student a chance to see what's about to happen to her before it encounters her body. So in this example, the students preferred color was yellow so we've highlighted the oral motor which we won't with yellow tape to help the student be able to alert to it before it comes into contact with her.

The third photo on the bottom is really a series of index cards. Each card has been covered with metallic tape. They're single color. So we have an index card that metallic yellow. We have one metallic silver, metallic blue, metallic purple, metallic red, metallic green. And so these cards can be a nice way to use throughout the day.

Because our students oftentimes, if they're doing an activity maybe with crayons, or maybe with paint, or maybe with clay, with anything that has a color, this is a great way to show the student the color they're about to work with, so that you have a pretty good sized visual target with movement. so the student has an idea that if he's working with green, at least he's being introduced to the goblin green as he's working with green materials. So these cards can be paired with a variety of items across the school day.

We need to look at how we're going to use on the environment and the workspace of the student. So in this slide, we have a couple of photos taken from the same classroom. This classroom does not have any windows in the room. The photo on the right shows it's more us more of a view further away. This photo was taken from the back of the classroom. And you can see that there is a closet on the right. The bottom part of the closet is filled with positioning equipment and helmets. The top part of the closet has a variety of Tupperware or boxes filled with materials.

But however, the teacher was able to create a workspace in a corner of the room, to really control the environment to reduce the complexity of array. So if you go in from the student's point of view, get up nice and close, you can see that they have hung up a black curtain, the teacher use the PVC pipe to make a curtain holder. And then they attached to black curtain with shower rings.

And so they've set it up in this corner so that when a student goes to work in that corner, the complexity of the environment of the rest of the classroom is not interrupting the student's ability to use his vision.

We have another example. This is a photo of a therapy room. Again, there are no windows in this classroom. But the therapist bought a black tablecloth from dollar store, and essentially just tacked it up on the wall using push pins to create that visually simple background. But I think it's important to not underestimate the value of a solid blank wall or door. Depending upon the color of the materials you're working with, a solid wall could very well be a visually simple background and work well for your student.

We have two photos of a different classroom now. We're in a different school. This classroom happens to have windows in the room. So what the teacher has done, she has put up black curtains to block the window. She used those tension curtain rods. And so we have the blank curtains blocking the windows, so controlling a lot of that light coming into the room. To the right of the windows, you can see, there is a shelf that has books on it. It has different containers of activities.

And again, the teacher has put a tension curtain rod and a little black curtain, so that you can close it, so that the materials in the shelf are not interrupting the student's ability to use their vision. And then when you need to get materials, you just slide the curtain open and then close it again. So that works really well in this classroom.

Another view in the same classroom-- this is a student's workspace. So the student is seated with her back to the windows. And again, we have the tension rod curtain holders, and we have [AUDIO OUT] visually simple background.

In this school, they were fortunate enough to have a spare room that they were able to devote to a couple of students with CVI in the building. And so they were able to go into this room and really put up curtains, because there are a variety of different shelves. All kinds of materials are kept in this room. But they've been able to put up black curtains that they can open and close to get to the materials.

This student happens to-- light really helps the student to use his vision. So the top left corner is a picture of just a little flashlight they've hung on a hook. The flashlight stays in the room, so it's always there when they need it. And there are a couple of photos from the students' perspective, where you can see, once they have the materials they're working with off the shelf, they close the curtains. And the student has a visually simple background.

So we're going to talk a little bit about visually guided reach, or the absence of it. We know, again, that vision is built in the brain. And there are essentially the two visual streams that work with vision. There is a dorsal stream, is responsible for processing simultaneous visual information, or processing simultaneous sensory information. The dorsal stream is responsible for managing visual attention. And using vision to guide motor actions of both upper and lower extremities. So the dorsal dream is what we call the where vision.

The second stream is the ventral stream. And this is used to recognize and identify what it is we are looking at. So the ventral stream, or the what vision, helps us to identify objects, images, faces, letters, words, numbers, et cetera. So the absence of a visually guided reach is a result of the lack of integration between the dorsal-- the where vision, and the ventral-- or what vision-- stream. So the two strains are not working together, which is why we see students with CVI-- they are often unable to look and reach simultaneously.

Often, this occurs as two separate events. It may be the more classic visual motor pattern of look, look away, reach. The student may close their eyes when they come into contact with an object. But regardless of whether vision leads the interaction or if touch alerts the student to an object, it's difficult for them to look and touch at the same time.

So how can we help our students with that? Well one strategy for supportive active learning is using the hand underhand technique. And when we complete activities with our students using hand under hand guidance, we are actually completing the activities mutually together. And so hand under hand guidance stimulates the student's curiosity about the world around them. It helps to reduce passivity. And ultimately, we hope it's going to help our students have an increase in the desire to do things for themselves. Hand under hand guidance is a little bit different from what most people are used to.

Because we are essentially talking about having our hands underneath the hands of the student, so that the student can follow along with the emotions of the adult's hand. It promotes more active learning, in the sense that the student can choose to move their hand away from the student, if they're not quite ready to check out the activity. It could choose to move with that [AUDIO OUT]. And so hand under hand guidance really encourages involvement of the students to completely routine tasks that they're not yet able to do independently.

So again, hand under hand guidance is really completing activities mutually with a student. It builds trust. It shows respect to our students. And it helps our students make a connection. And it lets our students know that they are safe and we are here to support them.

Now hand under hand could look different for different students. If you have a student who has maybe a little bit of difficulty controlling their motor movements-- so we're going to see videos a little bit later in the presentation, of a student who works really hard to control her body. But her movements are not very well controlled. So hand under hand for her is going to look a little bit different. Because we're really trying to provide solid support and stability, so that she can move her hands.

So this is going to be different for different students. But ultimately, our goal is to have the student be actively involved, and to respect the student. If they're not quite sure that they want to practice, and you can feel them pulling away, let them pull away. So ultimately, we're being respectful of the student.

There is a wonderful resource online that you can find, that talks about hand under hand guidance. And this is the Washington Sensory Disabilities Services website. They have, they talk about hand under hand. There is a section where there is an introductory section that talks about what hand under hand is. But what's really great is that they have several different video clips of using hand under hand under hand with a variety of different students. So there are students of different ages. They include students in some different abilities.

And so you can scroll down to the bottom of the page. I want to say there are five or six different videos. So you're pretty likely to find a video of a student that might resemble one of your students. My personal favorite video is Daniel Makes a Smoothie. I mean, he's a student who is deafblind. So if you have an opportunity, you should really go to this website and check out those videos.

Foam tubing-- another way to help our students when using hand under hand guidance-- because again, it's going to look different for different students. You may have some students who have high muscle tone. it. And it's a little bit more difficult to help them really get involved in the activity. So something like foam tubing can be added to the end of crayons or markers or other school tools.

What it does is, it builds up the handle of the different tool. And this extra length actually allows for the adult the guy in the motion, and to do the task with this student, without needing to manipulate the students' hand so much.

So this unit may be holding toward the bottom of this foam tubing, where they can reach with their hands, and the adults may be helping with stirring. So if you're working with a wooden spoon with the long handle, that's another way to do this. So the student's hand can be down toward the bottom. The adult Hands to the top of the spoon, and is helping to guide the movements without actually manipulating the student's hand.

So these foam two beings are really great, too it's nice as well. Because they come in a variety of colors. So if we're thinking back at our intervention planning page, if we know our student has a preferred alerting color of yellow, we can add a yellow tubing to the instrument to help guide that visual attention.

OK, so one strategy for helping our students to be more active is creating stay put exploration spaces. Oh this is another fabulous resource that you can find online this comes from the Ohio Center for Deafblind Education. The link to the resource is at the bottom of the slide. And basically, they've put together this resource that's called Hold Everything-- 20 Stay Put Play Spaces for Infants than Preschoolers with Sensory Impairments and Other Special Needs.

So regardless of the age of your student, all of these spaces can be adapted for older students who are young thinkers. This resource is a great jumping off place to give you ideas about how you can create some environments for our students, and then really adapt them specifically for your student. So, oh-- this is what I want to tell you as well-- so stay put exploration spaces-- I see them as a way of supporting the ECC area of orientation and mobility as well. Orientation is defined as knowing one's position in space, knowing one's relation to other things in the environment. And the foundation the orientation is the conceptual understanding of the physical environment, including its layout, its spatial relationships amongst people, places, and things.

Mobility. Is essentially the physical act of moving from one space to another. The foundational concepts for mobility include the development of motor skills, physical coordination. And stamina. So stay put exploration spaces actually help us to build on the building blocks where these concepts for orientation and mobility. And they do this because stay put exploration spaces support body awareness. They support body part identification, spatial awareness, directionality, purposeful movement, independent, exploration, and the building of the mental map of that space.

So not only is this an opportunity for your student to actively impact something in their environment, it's actually a support for orientation and mobility as well. This resource is really terrific. So for each of the 20 spaces, I've just highlighted three of them. They're going to give you a picture of what the space looks like. They're going to describe it. It talks about the target skill areas that the space focuses on. It's going to tell you the materials that are needed to create the space, as well as the directions for making it. And then they provide you with some suggestions for use.

So we absolutely cannot talk about active learning and Dr. Nielsen without talking about the little playroom. And this resource gives a nice description of what the little room is. I'm going to read that for you.

So it says this little plain room is a secure space for independent exploration, using hands, feet, a whole body, a mouth, cheeks, a head, anything that works for a child. Sensory rich objects are hung within reach from the ceiling, attached to the inside walls, to be discovered and manipulated. This play space is adapted from the little room designed by Lilli Nielsen.

I took out-- I have pictures of two other spaces that come from the book, that are particular favorites of mine. But you can go through the book, and you can find a whole variety of different ideas. I really like the active learning vest. It's the vest that materials are attached onto the vest, using binder clips. Or you can use sewing rings. And just, you're physically attaching items to a vest. And then this vest is going to actually be worn by the student.

So the location of where the materials are placed really are going to be based upon where the students' hands and arms, where they are when the student is sitting in a position. So if you have a student who maybe with cerebral palsy, is that the active learning vest is great. Because if you have students with cerebral palsy, who's-- maybe their hands-- they're fisted, or they tend to be up close to their body, you can position materials on the vest, so that the students, they come into contact with the student's arms and the hands.

Another nice idea is a texture board. You can you put a variety of different textures. You can put materials that have sounds like crinkled paper or bells. And again, you can position this anywhere for the student to interact with. You can position it for their hands. You can their feet, either arms. There are just some really nice ideas in this resource that you can take and adapt make work for your students.

We have a couple of pictures of some stay put exploration spaces that a paraprofessional actually made for one of our students. What's nice is that you don't necessarily need to spend a lot of money to create these spaces. So we have pictures of a student who, she's sitting in her wheelchair. But the paraprofessional has taken a pool noodle and attached it to the chair with the bungee cord. They've put some beads and some other colorful materials on the bungee-- on the pool noodle. There are some jingle bells on the end of the pool noodle. And there's a picture on the right hand side of the screen, where we can feel that the student was able to bring the pool noodle up toward her chest.

So her hands are holding it closer to her lap. But she's gotten the pool noodle up by her face and her mouth, and so she's exploring it that way as well.

There are two photos on the bottom. Again, they've taken a bungee cord and just put some red hearts on the cord. And again, it's in the place where her hands accidentally-- when she's sitting in a resting position, this is where her hands naturally lay. And so the materials are presented in a location where the student will find them. And the key really is the stay part piece. We want to make sure these materials are secured, so that if this student-- maybe the first time they encounter something, it's accidental. Well if their motion hits the object and it's not secured, the object can roll away, away from the student. And so the student can never repeat that experience, because the object is now gone. So that's the importance of really securing it, so no matter what the student does when they encounter it, it's going to remain stable so that they can encounter it again.

We have some pictures of just them a student in a little room. One of the pictures actually comes from a Wikipedia page about Lilli Nielsen. There are two other pictures on this slide. This is one of my students. We see her in a little room. The picture on the left bottom of the slide is this student living on her back in the little room. The picture on the right of the slide is this student actually sitting upright. Her paraprofessional is helping provide support. And so she is interacting in the little room now, sitting upright.

So again, we have two pictures of my student laying on her back in the little room. And the key thing I wanted to point out in these pictures is that the picture on the left, the student is laying on her back. And so while the student doesn't have to devote so much attention to maintaining uprightness or maintaining her position. So now this energy can be devoted to really using her vision. And so she is on her back. On her right side, there is a black nyloop wedge. There's a yellow switch that's the cure to the wedge. So the ultimate goal is, we're hoping for her to come over to activate the switch, and then to turn on lights in the little room. Because that's a favorite thing of hers to do.

The second photo actually shows you on the right that as she reached out to activate the switch, if you look really closely, you can see that her eyes are closed. And again, that's just an example of a student with CVI who has difficulty maintaining a sign simultaneous look while touching.

We have some photos on this slide that just give you a couple of examples of other stay put exploration spaces you can make that don't necessarily need to take up a lot of space. And you don't need a lot of fancy, expensive equipment to make these spaces.

So the picture on the left is that same black nyloop loop wedge, except now it's standing taller from top to bottom. There is a blackboard behind the wedge. The block, the complexity of the clutter of the background. And attached to the wedge are some shiny beads. There are yellow beads, purple beads, and green beads for the student to interact with. If you have a student who really relies on light to help turn on that visual system, to help them alert to a target and to visually regard it, the same beads can be presented against a light box, with the overhead lighting turned off. And so that may help your student alert to it, and encourage them to interact with this space. The picture on the right is just, again, the light box in a dim room, with a metallic yellow pompom on the top of it.

So the next video clip we're going to see is our friend. We saw her in photos a little while ago. She is going to be interacting with her tether bar exploration space. And again, this was made from just everyday materials. The paraprofessional used a bungee cord and attached it safely to the chair. They put some-- red hearts are strung across the bungee cord. They put a blackboard on the student's lap. This helps to provide a visually simple background, and also helps to support the student's arm. She works incredibly hard to control her body, and in an effort to control her motor movements.

And for this particular student, a stronger hand under hand guidance helps her in the sense that it steadies her arms and helps stabilize the movement. So she's not fighting against so much extra movement. So we're just going to take a quick look at our friend, interacting with her exploration space of the tether bar.

We have some screen shots of her before the video. She has a beautiful smile. A couple of the photos show her, that she's able to look while touching the red heart. But now we're going to get the video clip.

She is exploring at her own pace.

OK. A little information about this student-- she is sitting with her back toward the windows. But she can handle, she's able to use her vision, even with the overhead ceiling lights on. So this classroom is a little bit less controlled than it needed to be for the student in the first video.

So now we're going to see the same student in the little room. There are two separate video clips. We're going to see her laying on her back in the first clip.

Just another thing to note-- the team actually made the student's little room with the PCV piping, and they just put black cloak over the top, almost like making a tent or a fort. And so in the first video clip, she's laying on her back. At one point, it looks like she's using her head to explore a doll. So we're going to look at that video clip first.

There is no sound to this video clip.

But there is a yellow switch on the nyloop wedge, black wedge, so it's up on a slant on a vertical plane. And there are lights to her left.

And so I accidentally misspoke. The doll is not in this video clip. But it looked as though she was using her head to explore the beads hanging down in that left corner.

The second video clip is going to be of the student-- now she's sitting in the little room, supported with the paraprofessional. You're going to see that she works really hard to maintain her head in an upright position. Often time, her head goes down onto her chest. But this actually brings her eyes into position in alignment with the target. And you're going to see that sometimes her eyes are actually scrunched closed, and other times her eyes are open, and that this student really enjoys being able to move her body freely. So this is the second video clip.

So while this student was sitting upright, the black nyloop wedge was placed in her lap. The switch, the yellow switch, is again positioned on that wedge. And there are lights that have been strong in the little room. And that's what she's activating during this activity.

We're going to talk a little bit about visual novelty, and how our students with CVI have difficulty with novelty. The human visual system is actually designed to alert to information that's unusual, that's unfamiliar, or that's novel. But we know that our students with cortical visual impairment prefer to visually regard objects that are familiar, and that they typically ignore objects that are new and unknown to them. And this is related to the ventral stream, or the what vision.

So again, we're going to use our intervention planning sheet, and be sure that we are going to use qualities of preferred objects. And we're going to incorporate those qualities into learning activities across the school day.

And so ultimately, with the vision, we're hoping to give them another sense to help them to understand their world, and to begin to recognize and interpret objects based on their salient features. And so when our students have difficulty moving from something that's highly familiar to something that's less familiar, we often recommend that they choose two to three everyday functional objects that happen, two to three routines that happen across the day, and that they incorporate a meaningful activity routine around that activity, with the object being the main functional object.

So essentially, what they are looking to do is to create a meaningful activity routine around two to three activities that the student experiences every day. So we're looking at their day, and we're going to script them routines based upon their schedule.

Looking at activity routines-- so for sensorimotor stage learners, it is a best practice instructional strategy, is actually creating a activity routine. And so there's a nice resource. Again, you can find this little article on TSVVI. The link is at the bottom of the slide. It's written by Millie Smith. And I think it's just really important to hear everything that Millie has to say. So I'm just going to read this out for you.

So it's titled, Why are Routines Worth the Trouble? The power of a routine is a precise planning of what the student will do and how he will do it in each step of the routine. Many students are able to learn new skills and participate at higher levels when this strategy is used, because they need the following things that routines provide. They need predictability. I know it is going to happen from start to finish. They need consistency. I know what I am supposed to. Do they need anticipation. When you do that, I know to get ready for-- and they need practice. I remember what I did last time, and I can try to do more this time. Students with severe disabilities rarely do every step of a routine independently. But they are afforded the dignity of doing everything that they are cognitively and physically capable of doing.

So we have an example on this slide of a meal time routine. So they've posted their routine for the student, the steps of the routine. Because it is around meal time, the routine is actually posted in the related classroom area. There is scripted language in the routine. And sense it's posted in that location, any staff who's going to work with the student everyone can remain consistent.

And again, as you're planning out the student's routine, we're taking into account the information we gathered and put into the interview and intervention planning sheet. So for this particular student, this routine, the student demonstrated a preference for the color yellow. So his spoon was highlighted with a low metallic tape. Movement was essential in helping him to alert to a target. So again, the metallic tape on the handle. And they gently moved the spoon in the student's visual field to help turn on that visual system. Right of center it was his preferred location. So it was important that everyone knew that this is where the spoon needed to be presented.

This student demonstrated the latency period of about 20 seconds. So the staff need to know that they need to wait at least 20 seconds or so very quietly, to give the student the opportunity to use his vision. For visual motor, for the absence of the visually directed reach, the staff are going to need to use hand under hand guidance to help the student explore the salient features of the spoon through touch as well.

And the complexity of the environment-- they need-- the room needs to be quiet, and that the main object of the routine-- the spoon. And the staff is wearing a blank apron so that the spoon does not get lost in the clatter or complexity of any clothing. They are working on novelty, because this routine is going to be repeated twice a day-- one time at snack, and once at lunch.

And then for light, the student is able to visually regard a target in a room with natural lighting. So the overhead lighting is on.

The next slide shows another activity routine that was written up by a team. And so the way this one is written is, it says, you know, we're going to work on successive experience exposure. And so that this routine can be used for exploring toys, during sensory play, during crafts, or story time. And the instructional guidance that the teacher put on the page is that it's important to always start in a predictable manner, and to repeat this process following the same order, using the same language in the steps.

And what you can see in this routine is that it's actually broken down, sense by sense. So the first step, this student alerts more quickly to auditory. That helps him to know there is something in his environment, more so than vision at this point. So they're going to start with the auditory sense. And they have the language written there. Here is the link. Let's listen.

And then explain how you're going to use them. So we're going to provide auditory cues to-- we're going to provide auditory cues to prepare the student to listen to the particular sound. They include how long they're going to provide this auditory feedback, that they're allowing for processing time before turning to the next sense. In the routine, they're going to go to touch next.

And then finally, they're going to go to the visuals. They're including how you're going to introduce the sense to the student. So from the visual standpoint, and again, using that CVI planning sheet, we knew that we keep we need to use a flashlight to spotlight the object, that it needs to be presented against a solid background, and that the item needs to be presented to the student in a peripheral field.

They're going to turn on the flashlight and keep the object in the same location. They're going to wait for the student to direct his attention towards the visual target, and then allow for opportunities for the student to return his visual attention. And this is what I call the sneaky peak. Often times, when our students are beginning to alert to an object, they may take a quick little glance and then look away. You give him a little bit more time, they may look again and look away.

So we not going to provide the student with enough time to continue to increase the number of sneaky peaks the student makes, what the ultimate goal of having a sneaky peak last maybe a second or two, and to begin to extend the length of time the student is able to focus on the target.

And what you've probably noticed as well in this activity routine is that we are presenting multi-sensory information, but presenting it one is sense at a time. Remember, our students who are sensorimotor stage learners, they learn through exploring. They want to know what the attractive item is like, and what it does.

So as we begin to present the different sensory pieces of the object to a student, they can begin to put together the individual pieces into a whole. And so eventually, the different sensory pieces are the essence of the object. Or sometimes, you might hear people call pompom-ness spoon-ness. So each of the different sensory pieces, presented one at a time, so that the student and put them together to make a whole.

And again, this is related to the dorsal stream visual functioning, which is the ability to process simultaneous sensory information while managing visual attention. So it is important that we give our students one sense at a time.

And here is just the caution about the sense of smell. If smell, if there is a smell that is a naturally occurring part of the experience, then we can deliberately and purposefully include smell in the activity routine. We want to help our students become aware of smells that are already present in the environment or are part of that routine. We really want to avoid introducing artificial smells, as artificial smells actually will distract away from the activity.

And smells can't be put away in a box. Once you interact produce a smell, it lingers, and it's in the air for a while. And so you have to take into account that some students may have sensitivities. There may be even other adults in the room who are impacted by smells. So we really want to avoid introducing an artificial smell just for the sake of having the smell.

Some individuals like to use essential oils with their students. And I would like to provide this question. They are powerful chemical substances. And really, you should consult with an aromatherapist before you even consider utilizing essential oils.

- Thank you for sharing your knowledge on this important topic, Tina. We greatly appreciate it, and know many learners and families and teams will benefit from the valuable information you have provided us today. We look forward to part two of your presentation, which will discuss object literacy opportunities for sensorimotor stage learners. Thank you again.

**CVI TVI Tina part 2**

YVONNE LOCKE: Welcome to CVI for the TVI and Other Professionals, our monthly presentation and discussion around the topic of CVI. My name is Yvonne Locke, and I will be your moderator for today's presentation, Teaching Strategies and Resources for Sensorimotor Stage Learners, Part 2, with Tina Gutierrez, which will begin in just a moment.

In today's webinar, we are talking about creating object literacy opportunities for individuals with CVI who are sensorimotor stage learners with Tina Gutierrez. In part 2 of this presentation, Tina will share ideas and resources for creating object literacy opportunities for individuals with CVI who are sensorimotor stage learners.

TINA GUTIERREZ: I know there are many, many different definitions of literacy out there in the educational world. But the definition that really speaks to me is one that comes from Martha Majors from the Perkins Deafblind Program. And so this is the way she defines literacy. Literacy is the understanding that symbols represent objects, events, concepts, people, and ideas.

And so when we're thinking about our students who are sensorimotor stage learners, we know that their primary sensory system for exploration is touch. So it's really important that the symbols the students interact with are authentic, concrete objects. And just a quick caution against the use of plastic-- plastic doesn't have any kind of distinctive feeling to it. So plastic feels like plastic, which feels like plastic. So unless a critical part of the object is that it's actually made of plastic, like this drink bottle, we want to avoid using miniature plastic items.

And really, it's important to-- when you look at that definition of what literacy is, it's not hard to understand that these concrete objects are actually vocabulary words for the student. And so at the bottom of the slide, we have a spoon, which means lunch, which is the equivalent of this nutrition drink bottle, which means lunch, which is also the equivalent of a feeding tube or a syringe. So again, depending upon how the student experiences the activity, that's where those vocabulary words come from.

OK, so a nice object literacy idea is to create or build conversation, topic, or concept boxes. And really, they can be made around any topic or concept at all, anything that interests your students, any types of-- you can look at the student's IEP. If they're working on any skills, chances are you can make a concept box around that skill the student is working on. And so we want to gather object vocabulary words related to the topic.

You're going to put them in anything you have, really. It could be a shoe box. It could be a bag. It could be a Ziploc container. You just need to take into account that we want-- we want to take into account the student's CVI planning page and how we decide the type of box we use.

The object words are going to be related to the experience from the student's point of view. So if you are making a concept box around eating, and your student receives nutrition through a G-tube or a J-tube, a cup and a spoon is not going to be relevant for the student. You're going to include the G-tube, a syringe, those types of materials, maybe the can that the formula comes from. That is the student's experience around eating, so those are that student's vocabulary words.

You can use these to teach concepts. You can pre-teach. You can preview for an upcoming event. You can use them to review or to remember a past event. And it's important, too, to include scripted language so everyone stays consistent and anyone can read the topic box with the student. So on this slide, we have two examples of--

TINA GUTIERREZ: OK, so this slide, we have two examples of topic or concept boxes. The picture on the left-- it happens to be a topic box around the color blue. And so the materials are actually put into a shoe box. And so what we've done with the shoebox is just taken some blue construction paper and pasted it onto the box so that we have one solid color. There's some metallic blue tape outlining the box to add a little bit of movement.

And then some of the three items that happen to be in this box-- there is a blue dish-scrubbing pad. There are some blue sparkly stars and a blue snowflake. So again, the objects that go into your box-- you can have several concept boxes for blue and have them all look different. It would be really great if the student can go around the classroom, maybe, with you on a scavenger hunt, looking for blue items and gathering them together. It'll be that much more meaningful for the student.

The topic box on the right is actually a birthday party for a birthday party. And maybe the student is preparing for his birthday. Maybe the student is getting ready to go to a party. And so this topic box is actually contained in a gift bag. It's a metallic green gift bag. And then some of the items in this example that go along with the topic is there is a metallic red ribbon, there is a party hat, and there is a horn for the party.

And so this might be a nice way, too. If you know your student has a difficult time with loud noises and horns, you can at least begin to prepare them that you're going to hear something like this. And you can do the sound of the horn after the student looks at it and gets to touch it. So these are two concept boxes about colors and birthday party.

On the next slide, again, we're going to use our students CVI intervention planning sheet when we think about how we're making the boxes and the materials that are included. So you can have a topic box where the materials are gathered in a Tupperware container and actually put that on a light box. It gives a nice glow to the materials. And so for this student, maybe this student understands his spoon from mealtime routines. And now we want to start to generalize the salient features of his familiar preferred spoon to novel spoons and to help that student begin to build that mental library that includes spoonness.

So this is an example. There's just a variety of different spoons inside the box. If your student can handle maybe two items, there might just be two different spoons in the box. So again, our CVI planning sheet is going to help us design the appropriate concept box for our students. The one on the right is actually an object alphabet activity, which I think it's really important that we include alphabet activities with our students who are sensorimotor stage learners.

So this particular box is about the letter B. So we're going to imagine that the student really enjoys bubbles. So bubbles would be a great object to include in the letter B box. We're going to think that the student enjoys ringing this bell, and the bell happens to be yellow. So let's say the student's initial alerting color was yellow. We have a nice, bright yellow bell in the box. We have some metallic tape added to the bubbles to help create some movement.

So maybe this student has a preferred color that can interact with a variety of objects as long as they're single colored. So then you might be looking at the picture of this box because you notice there's a single-colored green bubble bottle, single-colored yellow bell, and then we have a multi-colored purple bear in the box.

And it might be that this student, that this bear is one of the student's most favorite things, that this student has had this bear for quite a while. So the fact that the bear is purple, is the matte color, has multi colors to it, it's super familiar and preferred to the student so that the student is able to visually regard it. So again, you take these things into consideration when writing these object topic boxes.

Object sensory books-- this is another fun literacy activity you can do with your student who is a sensorimotor stage learner. This is really meant to be a shared reading experience. So together, you can turn the pages with the student using hand-under-hand guidance if required. In the sensory book, there is one object Velcroed to each page. And I like Velcroing the object to the page because it allows for the object to be physically removed and explored with the student one sense at a time.

You can write the book together with the student. And again, our CVI intervention planning sheet, we need to know, is movement required to elicit visual attention? If so, we need to incorporate it in the book. Well, spotlighting of the object with a flashlight-- is that important?

The amount of wait time we need to provide, where we're going to present the object in which visual field-- how close do we present it? How carefully do we need to control the environment? And again, we're going to include some instructional guidance so that it becomes a scripted activity routine. So again, the CVI planning sheet is a critical part of designing these active learning opportunities that are accessible to our students.

So now we just have an example of an object book that was written, actually, back in 2010. This book was written by a student named Tyler. We wrote it together. And so the title of this book is Tyler's Rainbow. And so the first page is some metallic red stars, like this garland that's made of red stars. And this is the only object on the page. It's against a black construction page.

So at the time, we made the book, actually, out of braille paper, because it was just sturdier. So now there's other materials that can be used to make books that are sturdy. But at the time, when we wrote this book 10 years ago, this is what we used.

So the first page is red stars. And again, they're Velcroed to the page. You can pull them off. The second page is the yellow shaker. And it's a maraca that's been highlighted with metallic yellow tape. And again, you can pull this off. You have a nice sound component as well as you explore the object one sense at a time.

The next page is a blue pinwheel. The handle has been highlighted with metallic blue tape. The next page are shiny green jingle bells. And then the final page is some curly ribbon. It's a rainbow of ribbon, all the different colors combined. And so that's the object sensory story that Tyler and I wrote.

OK, object literacy-- you think about how much time our students spend in heightened anxiety across their day. Remember, from the student's point of view, the world is unpredictable. It's disjointed. It does things to them without any reason that they understand. So how can we expect a student to be an active participant when random things happen to them across the day without any concrete connection to their world?

So again, we want to build coherence, which is the feeling that the world makes sense. And we can do that with an object anticipation calendar as well. So essentially, with an object anticipation calendar, it's a now box with an all-done or finished box. And so we want to be able to let our students know that an activity is about to begin. We want a very clear beginning to the activity.

There is going to be a middle where they interact with the object that's been introduced. And we want there to be a very clear ending to the activity. Because again, this disjointed information is coming into their world, and we want to clearly state, we are about to begin something. Here is the beginning. We are doing the activity together. It's over, and now we have ended. Here is the clear ending.

And truly, this can be done throughout the student's day with any object or any activity across the student's day. Any time, really, something is about to be introduced into the student's world that will eventually leave the student's world, you can use this now box and all-done box. Because remember our fairy godmother? We want our students to actually be involved with something entering their world.

And it will be helpful to have a dictionary page for your anticipation calendar. So this slide is just an example of one calendar page. Your dictionary page doesn't have to look like this. But the important parts of the dictionary page is that it includes the routine that's being represented. It lets us know the object vocabulary word and that the language being used-- and if any signs are being used as well.

So this calendar page was actually for a student with cortical visual impairment and hearing impairment. So this student also has deafblindness. So we see that we are trying to represent a hygiene activity of the diaper change. The object vocabulary word is a wipes container. And the language we want to use with the student is that it's time for a change, and that we're also going to combine that with a touch cue to the hips.

Feedings and medication-- the object vocabulary word is a syringe, the language "time to eat" or "time for meds." They're going to incorporate a touch cue to the tube site, because that's where the action is going to be taking place. And then any type of movement activity-- their object vocabulary word is going to be a buckle and strap. And so they're going to say, it's time for the bike, time for the KidWalk.

They've also included on their dictionary page what their now box is. It's a black foam box. So their time slot for now is a black box. Their all-done box is going to be an orange basket. It says orange circle basket because this basket happened to have a texture of cut-out circles, so that's the way we described it.

Something really critical to remember as well is that the now box and the all-done boxes need to be distinctive boxes. They need look differently, feel differently. They need to be very distinct so the student can eventually learn one from the other.

And then, as you begin to script the activity routine, it is a collaboration between all team members. So this is just an email going back and forth between the special education teacher and myself, just some of the things we talked about and how we're going to implement the routine. And again, we're exploring the essence of the object one sense at a time. And it's really important that we're using the object in a meaningful, correct way.

The all-done box-- I would highly recommend for anyone starting a calendar system, if you even just begin with an all-done box, that would be wonderful. We'll have a clear ending to the activity. The student will help with the cleanup. And then, this way, the objects are not disappearing into nothingness.

And if the student, of course, goes to different locations across the day, you can have multiple duplicate boxes in the different locations. You can consider a portable all-done box and have it [? be in ?] a bag that's carried with the student. But just involving the student in the cleanup and the ending of an activity is really a great way to start your object anticipation calendar.

And then, from this all-done box, we can actually jump and start writing journals. We can write school-home journals and talk about-- you can use the objects in the all-done box and talk about with the student, what did you do today? You can review the object words in the all-done box. Again, depending upon how many objects your student can handle, you can review one at a time. You can review several at a time. Our CVI intervention planning sheet is going to help guide what that looks like.

But essentially, we do want to review activities that took place during the day because it's a way to build cognition, memory and recall, and the student can help write a journal page that goes home. Because we know it's really important that a communication book goes back and forth between home and school-- the family needs to know what happened during the day. The school team needs to know what happened at home, anything they need to take into consideration.

So we certainly are not going to take that away. But wouldn't it be great to include a journal page that the student could read with the family when they get home? So ideally, you'd like to start with an activity that the student actually enjoyed, was something positive from the day. And you select that object vocabulary word. You write the journal page by attaching it to a sturdy background.

Again, now you can find from American Printing House-- they have some nice Velcro pages that are three-hole punched that you can securely attach an object to the page, and it can go into a binder. You want to include that scripted language so that everyone is reading the same story. After the student helps to write the journal, they help to put it away into the backpack. And then, again, when they get home, the student can read with the family about what happened during the day.

And so on this slide, we just have a couple of examples of what a journal page might look like, again, taking into account that CVI intervention planning table. So the picture on the left-- we have one Velcro board that's three-hole punched. And the word that's included in the journal is a paint brush. And it happens to be highlighted with metallic silver tape.

And so because the student may be only able to visually handle one object at a time, the text is actually written on the back. And so this journal page might read, I had art with Miss Debbie. And so it's a wonderful way for the student to have a conversation and share with their family what happened during the day.

The pictures on the right side of the slide are actually really cool, because we started to implement a journal coming from school to home with one particular student. The family enjoyed reading the journal page so much with their child and siblings that the family actually began sending back accessible journal pages into school so that the student could read about what happened at home with the teacher.

So this particular student, again, can handle a visual array of more than one object, but they're still Velcroed to a nice black board. There happens to be a book, a sound card with the sentence recorded on it. And then there's an index card that includes the sentence. So I think this page-- it was that they read something with the family. It's hard to read the text in the photo of this picture. But really, the critical piece is that the text is there, and it goes back and forth so people can stay consistent.

The other journal they shared has a picture of some type of crayon on it because he played some type of sorting game at home. But again, this is really terrific. So journals are going home, and they're coming back into school.

And then, ultimately, this is incredibly fabulous. So we have our students-- depending upon the types of school they're attending, they may go into a classroom with other peers. And so the first grade in this particular school did a holiday traditions presentation every year. And so the students would go home, create their presentation. They had maybe a large poster board. They would put pictures and things on it. And then they would come back into school and get to share about their traditions.

So this student, again-- because objects are vocabulary words, the mother and the son actually wrote several journal pages about their holiday traditions. With the text on the page, they included a voice-output device that actually read the [? sentence ?] [? as ?] well with the concrete objects accessible to the student.

And so when it became the student's turn to present, it wasn't the teacher reading for the student while the student happened to sit passively by. The student was actively involved in sharing the presentation by activating the voice-output switch, exploring the object materials. The friends in the classroom absolutely loved it, and he was 100% participating in this activity using object literacy. I happened to get to be there that day, and it was really cool to see. It was just great. It was terrific.

OK, so now we have a little video clip of how you might introduce an activity using the now box in an anticipation calendar. So this video was actually recorded in 2016, the beginning of the year. We are going to be looking at our friend, our young lady with the dark hair that we saw in earlier videos in the little room.

And so what they're doing-- they are introducing the activity routine of the gold bell. And the gold bell happened to be a particularly favorite object for the student. They're introducing the activity with a black Styrofoam APH calendar box. That's their now box. There is a black board, large board actually blocking competing visual clutter on the shelves and counters.

Now, from our point of view, we can't see it from the view of the way the video was recorded. But however, from the student's point of view, this visual clutter in the background has been eliminated. There were six adults in the room at the time of this recording, and it is-- yeah, everyone did a really terrific job of remaining quiet.

So what you're going to see in this video clip as well is there's going to be some hand-under-hand guidance. The paraprofessional is going to be working with the student. She does the lovely job of providing quiet wait time. The bell is going to be held stationary. It's going to be kept in one location so that it doesn't move.

So if the student accidentally encounters it or purposely encounters it, it's going to remain in the same spot to find again. The longer the video goes on, you begin to see that the hand and arm movements become a little bit more controlled. There's wait time provided for vision and for motor planning.

Just important to know-- if we looked at our CVI planning sheet, the student's initially preferred visual field was right of center. Yellow was the initial alerting color, which is why we have a gold bell. And in this particular instance of the video recording, we're trying to help the student begin alerting to an object that's initially presented at center. So here we go.

[VIDEO PLAYBACK]

This student worked so incredibly hard trying to control her body. Keeping the bell in that one spot allowed it to be rung a couple of times.

[END PLAYBACK]

And so that's an example of how you would start an activity with a now box. I hope you see this video and see that it's really a pretty simple way of introducing something. We're just using the box, and we're clearly stating, now something is about to start. This is what you're going to be interacting with.

So our next video clip is going to be the end of that activity routine using an all-done box. And so for this student, a red plastic bin is her all-done box. Again, you're going to see that for this student, she has a lot of extraneous motor movements. So it takes a lot of energy for her to try to control them so that they're a little bit more refined.

And so the plastic bin is initially presented at center to her but is eventually moved over to her right side, which was her initial preferred field. You're going to see that the paraprofessional at one point could very easily just drop the bell into the box herself and have the activity be over, but instead she places the bell in such a way that it allowed for the student to knock it into the bin accidentally.

But however, this accidental knocking into the bin-- the sound of the bell alerts her, and it actually leads her visual response to have her look quickly at it. So what's really critical is that waiting for the student response allowed that learning opportunity to take place because the paraprofessional didn't jump in to do the task for the sake of just getting it done. So here we go, our friend ending the activity routine of the yellow bell.

[VIDEO PLAYBACK]

She very easily could have put the bell into the all-done bin at this point but did not.

[END PLAYBACK]

So she places the bell, actually, on the right armrest of the wheelchair. And because the student does have a lot of extraneous motor movements, she did end up knocking the bell into the all-done box with her elbow. And then the touch of the bell, the sound of it hitting the bin guided her visual [? responsive ?] regarding it. So again, had the paraprofessional just jumped in and did it for her, that whole learning opportunity would have been missed.

So really, what are the take-home points when we are trying to create active learning opportunities for our students with CVI who are sensorimotor stage learners? We know that learning is a process, that it's a result of the retrieval and usage of high-quality sensory information. For learners who are in the sensorimotor stage of development, exploring is their primary behavior for learning. Their primary sense system is always touch. And remember, touch means more than just hands.

Our goal is to provide high-quality sensory information so that our students can make sense of their worlds and have a sense of coherence. When presenting multi-sensory information, please consider presenting it one sense at a time. We're going to discern these active learning activities using the intervention planning sheet that looks at cortical visual impairment and how the individual characteristics impact each student as an individual, and that it is our job to tune the environment and provide these opportunities for active learning.

So what I'd like to do again is just show you once more the end of the all-done video, where the paraprofessional chose to bring the all-done box over to the student's right side, which allowed her to accidentally put the bell into the all-done box, which led to the purposeful looking at what she had done. So here we go, just one more time.

[VIDEO PLAYBACK]

[END PLAYBACK]

So I'd like to leave you with this final thought that comes from Millie Smith. "How does a child learn if someone else's brain is doing all the planning and someone else's muscles are doing all the work?" Thank you.

YVONNE LOCKE: Thank you for sharing your knowledge on this important topic, Tina. We greatly appreciate it and know many learners and families and teams will benefit from the valuable information you have provided us today.