# Perkins School for the Blind

# Supporting Availability for Learning: Student‑Centered Assessment and Intervention, April 14, 2016, 2:00 p.m. CT

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[Robin Sitten] I just want to make a request to my partner Phuong who's running the console to turn the recording on, and we'll get started here in a second. Welcome to the webinar series. It's Thursday, April 14, 2016. I'm welcoming you to today's presentation, Supporting Availability for Learning: Student‑Centered Assessment and Intervention.

As many of you know, our webinars are presented throughout the year, on about a monthly basis. And you may register to attend live as you have today at no fee, and view recorded webinars at a time and place that suits your schedule. This webinar series is just one of the offerings in our professional development program, which includes publications, e‑newsletters, webcasts, online and in‑person classes, and self‑based study. You can see our entire listings at our website, www.perkinselearning.org.

Today's presentation by Christopher Russell will discuss strategies to increase states of behavior in daily activities and educational settings. Of particular concern for those who educate students with multiple disabilities and complex medical conditions. Before we get started, I'd like to review a couple of things about the technology. To help keep noise levels in control, we have muted your lines. Shortly we will have a question and answer space provided on your screen, and we encourage you to post your questions as they occur to you during the webinar. We do save Q&A until the end, but you can feel free to ask them as they come to you.

We are using this virtual meeting room for audio, so make sure that your volume is on and turned up. Your computer speakers may not be strong enough for your needs. We recommend external speakers or personal headphones to give you the best audio.

You have individual controls for your screen for audio and video. Part of this introduction is to give you time to make adjustments. There may be times where the video is not in sync with audio. This has to do with bandwidth. It's not anything we can control. Wireless connections can be particularly troubling. If you find that disorienting or distracting, you can minimize the video window. Usually it corrects itself, and he will be right back in sync with us shortly.

This event will be recorded. It should be available tomorrow on the Perkins website, including a downloadable version of this slide presentation, and a couple of handouts that he has provided. So now it's my pleasure to introduce Christopher Russell, he has experience as a classroom teacher and teacher of the visually impaired, working with children who have visual impairments and additional disabilities, including deafblindness. He specializes in severe and multiple disabilities, curriculum adaptations, and instructional strategies supporting communication development for children with pre‑symbolic communication. You may have met Chris when he presented a two‑part session on student‑centered AAC systems. Welcome to Perkins, you have the floor.

[Chris Russell] Thanks to Robin for the wonderful introduction. Also, thanks so much to Phuong, Christine, Mary, Drew, and everyone from Perkins who has made this happen. It's really a pleasure to be here with you today. The topic of today, as Robin stated, is supported availability for learning, student‑centered assessment and intervention. And the original title was biobehavioral assessment, so I think you'll find we changed it to something that's slightly less terminology ‑‑ person friendly.

The central focus of today is to try to be as practical as possible, given that we are dealing with some fairly technical information. This is a topic that's incredibly important to me. And I do find that when I open this topic up for conversation with teachers and educational team members who are working with students who do have severe and multiple disabilities, people do find it to be an enlightening and really illuminating, and awakening area to focus on. I want to start briefly with a couple of polls just to get a sense of who you are out there. The first one you can see on the right there.

Which of these describes your primary role of students who have disabilities? You can go ahead and click on the role that applies to you. We'll start to see some numbers pop up as you click. Great. We'll give that one more second there. We can see already here on this poll, sort of a nice thing ‑‑ one thing I was expecting is that we would have a large percentage of TVIs, teachers of the visually impaired, because this is Perkins. But it's nice to see some speech and language pathologists out there, hey Megan, special ed teachers , general ed teachers, even parents and administrators. And I'm glad that you're all here. We'll make sure that we gear the conversation towards everyone. One more poll.

And the second poll is going to be more about the students that you work with. How many of the students ‑‑ how many of you have students who have trouble regulating their own attention or arousal level, sleep frequently during the school day ‑‑ you can click on all that apply ‑‑ fall asleep during lessons and activities, have limited motor control, have significant seizure disorders, do not communicate symbolically, but rather communicate primarily through behaviors or reflexes, they don't have a formal language system. I’m seeing those big numbers and I'm very happy to see those big numbers. I imagine that the title of this webinar and the content today appealed to you, because this is really what it's about. It's about supporting those students who do have trouble regulating, and who also don't have the current communication levels, and the motor control, the physical ability, to be able to affect basic change in their environment. So they rely upon responsive communication partners and teachers to figure out how to best support their availability for learning. So, great.

Thanks for filling out those little polls. We'll go ahead and move on. So as a brief overview of what we're talking about today, I'm going to go through implications of deafblindness, visual impairments, and profound intellectual disabilities. When we talk about deafblindness, we're talking about students who have combined vision and hearing loss. It doesn't have to be completely deaf, completely blind. The content that applies to students who are deafblind very frequently applies to students with multiple disabilities, and a range of severe and multiple disabilities. So even though some of the information is specific to blindness, visual impairment, and deafblindness, it's relevant to all of our students who are on this level and have these issues with accessing the environment.

Then we're going to talk about availability to be learning, what does it mean to be available for learning. And then the core meat of the presentation is about assessing biobehavioral states, that intense technical terminology, and ways of thinking around supporting a student through assessment, through a very specific type of assessment. I'll talk about sensory channels, something that you TVIs in particular will hopefully find familiar when we think about learning media assessment and some of those ‑‑ altering some of those standard practices to apply to our students. And then we'll get on to some specific intervention strategies.

Sort of an intro slide to think about impact of multiple disabilities, and deafblindness in particular, this is one of my favorite graphics to really, I think, drive home what we're talking about in terms of instructional needs. On the left we see a pyramid that shows concept development in typical sensory access. And you can see ‑‑ I'm going to get my little green pointer that I love so much. We can see that about ‑‑ somewhere between 80 to 90% of all of the concepts that are learned for individuals who have typical sensory access, typical vision, typical hearing, is through incidental learning. That means that these are concepts that were learned just by observing, just by being there and using the distance senses, vision and hearing.

Mostly, concepts are learned through vision, just by observing somebody acting on an object. How do we know how to use a cup? Because we've observed people using a cup. Nobody had to explain that to us. And then about another 10 to 12% is learned through secondary learning. That means that somebody explained it to you ‑‑ didn't directly show you, but explained to you, this is a cup. It's a cup because we put liquid in it. This is how we use it. And then only another about 1% of concept development for typical sensory access is through direct instruction. And that means that somebody physically took your hand and showed you the elements of the cup and explained to you very directly and concretely why this is a cup.

Okay. We can see rather alarming, and I think it's sort of a mind‑blowing concept that for individuals who are congenitally deafblind, who are born with significant vision and hearing loss ‑‑ and I do think this also applies to our students with significant and multiple disabilities who lack independent, direct, easy access to information, the pyramid is turned upside down. So the overwhelming majority of concept development comes through direct instruction. And it makes sense. Individuals who have limited access to environmental information need extra direct attention, which also often means a lot of tactile learning, and a lot of supported learning directly and physically with a communication partner. That's about 80 to 90% through direct instruction. About the same amount through secondary learning with the residual senses, if there's residual vision, residual hearing, and then through the other non‑distance senses. And then only a tiny, tiny, tiny percentage comes from incidental learning, from experience. Okay.

So multiple disabilities and deafblindness are disabilities of access and experience. They involve delays in communication development, and achieving symbolism, achieving conventional language, which also often leads to the development in the use of inconsistent behaviors to communicate. These can be just unique idiosyncratic behaviors. They can also be personal forms of expression, or what we would call even a home sign. Or a home gesture. Or they can also be self‑stimming behaviors that are not often identified by communication partners as serving a communicative function, but it's our responsibility as competent communication partners and teachers to interpret what is the meaning of that, what is it telling us when the student is flapping their hands or waving? Does it mean they are frustrated, does it mean they are excited, happy, unhappy, tired, anxious, et cetera.

So this use of unconventional gestures and behaviors to communicate ‑‑ getting my little pointer again ‑‑ it often leads to low levels of recognition and response, because they're difficult to interpret, and they're difficult to, often recognize, these behaviors. Which then can lead to a severe mismatch in communication. The most standard description of mismatch in communication, most standard example, would be a student who is ‑‑ who doesn't have hearing, who is profoundly deaf, and a communication partner is talking to them. You can see that those forms don't match up. Communication is inaccessible.

So, that happens for a variety of reasons. That then leads to a limited number of opportunities to communicate, which further leads to low rates of expressive communication. And then finally, all of that, sort of, sequence of negative development and support can lead to stress, learned helplessness, and other behaviors. So this might sound familiar to some of you. So add to that profound intellectual and multiple disabilities, and the implications that we're dealing with in terms of access to information and availability for learning could be the impact of additional physical and motor impairments, the specific difficulty in regulating and maintaining equilibrium, keeping on balance, and then seizures and neurological impairments. I know many of you in the poll said that you have students with significant seizure disorders that are not manageable, necessarily, by medications.

Cognitive disabilities and learning challenges, and then sensory impairments to the central nervous system, and we'll talk a little bit more about some specifics with that. In terms of thinking about availability for learning and how available are students for learning, we often have to think about, what is their history of interactions? If they are not responding, if the student is not responding to your communication attempts, or they're responding in an adverse way, you might consider that children with disabilities, especially with multiple disabilities who have unconventional forms of communication, and do require that level of direct instruction to access communication development and concept development, may often have negative experiences with interaction itself.

So, being pulled around from transition to transition, activity to activity. Hand‑over‑hand instruction as opposed to hand‑under‑hand instruction. A history of people doing activities for them rather than with them. As well as not enough time. Just not being given enough time from prompt to prompt to process what is being asked of them. So, this can obviously lead to stress. It can lead to adverse responses to interaction. And it can further that lack of availability for learning. And it can make a student further unavailable to learn.

Another important point that I wanted to make, which I think is not really discussed enough in our field, working with students with multiple disabilities, is this history of biophysical pain. So if we do have students who have ‑‑ who were extremely ‑‑ who were from extremely premature birth, have a history of a lot of time in medical environments, maybe were in incubators at a young age for long periods of time, early experiences with surgery, and just very atypical infant experiences with touch and comfort, and a relationship to tactile input, that is associated from a very young age, even from infancy, with pain. To consider that that experience is somehow ‑‑ it's part of the experience that makes the student who they are in terms of how they relate to tactile input.

So, it's important when you see a student responding in an adverse way to tactile input that you consider the whole bigger picture. What has that student been through, what is their experience, and what's their association, especially if that student can't communicate that to you directly. Another big point that I wanted to make, when we talked about impairments to the central nervous system, you might hear this phrase go around sort of loosely, tactile defensiveness. My student is tactilely defensive, he just doesn't want to interact, he just doesn't want to participate and he [indiscernible]  his hands away. And I want to make the important point that tactile defensiveness is actually a clinical condition. It's not an informal response.

Tactile defensiveness ‑‑ true tactile defensiveness is a condition that can be diagnosed, and is a response to abnormal or impaired central nervous system. And it basically means that the individual has abnormal responses to normal sensory input. So what to touch should feel normal, and imagine touching something soft, touching a piece of velvet, it could feel rough to someone who has actual clinical tactile defensiveness.

So a light touch on the arm that might feel fine and unobtrusive to an abnormal input, to a student who is tactilely defensive, it might actually even feel painful. So that’s tactile defensiveness and that's not something you should throw around, in terms of the term, it's not something that you can informally diagnose. What you might consider is, does your student have tactile defensiveness associated with a specific condition, such as autism or CHARGE syndrome. There are many students with autism, many with CHARGE syndrome, or is it really just a response to negative experiences with touch, and a history of negative interactions with being touched, being pulled around.

So when we talk about availability for learning, how do you know if your student is available for learning? These are some rhetorical questions for you to think about when you think about the student or students that you're working with. How can you tell that that student is alert? That student who maybe doesn't have traditional forms of showing you or letting you know. How can you tell that that student is attending if they don't have the vision to make eye contact, if they don't have the motor skills to turn their head towards you? How do you know if the student is responsive or responding? And then much more difficult, how can you tell if your student is processing information and retaining that information?

And we'll come back to that when we talk about what is learning and how do we actually measure that. This is a really nice handout that I just included directly from the Open Hands Open Access modules, the intervener training modules hosted by the National Center on Deaf‑blindness (NCDB). And they have an entire module, an entire course on availability for learning. So I would really recommend that you look into these modules as an extra professional development opportunity. The module that gets really deeply into what is availability for learning, and how do you support it. Really, availability for learning is split into internal factors and external factors. And this is going to keep coming back in our discussion today. We're going to keep coming back to specific internal factors, and specific external factors. And what you're seeing here is this nice, sort of analogy of a scale. And it's only when those internal factors and those external factors are at a balance that we're truly available for learning, okay.

Internal factors have to do with what's going on inside of the student, biophysically, how they feel, medical conditions, even medication, illness, or pain. Even the history of interactions can be some of those things, as well as the impact of the specific visual impairment, the impact of the specific additional disability. Then we have external factors which are environmental. Those are the things that are going on around the classroom. We'll look more into that as we go.

What is learning? Learning is actual physical change in the brain. Learning is forming neural connections that then strengthen and expand to form further neural connections. It's a process that happens through experience and exposure. So what does that mean for our students who have limited experience, and limited exposure, and who require so much additional direct instruction? It means that the direct instruction itself needs to be geared towards their specific needs. It means that the direct instruction needs to be sensitive to interactions with touch, as well as sensitive to those internal and external factors that can support a student to be able to access the experience both in a sensory context, as well as cognitively for an experience to be available and accessible to a student. Okay.

And then coming back around to that concept of how do you know that your student is learning, and specifically, how do you know that your student is learning if they're not able to show you in traditional ways. And I like this Robbie Blaha, in a document that you can get on the Texas School for the Blind and Visually Impaired website has broken these down some of these concepts of learning into ways that can apply to anyone. You just have to think about how they apply to your student.

Learning can be thought of as habituation. Habituation is just getting used to something, the process of orienting and getting familiar and comfortable with something that at first was new to you, and now you're habituated. So a great example of that is the example of somebody who moves into, maybe this applies to some of you ‑‑ who moves into a house or apartment that is near a train track. And you realize very quickly that it's difficult to get to sleep when once on the hour every hour a train is going by and making a big sound, and rumbling the apartment. After several months, you get used to it. You get habituated. So think about ways that this might apply to your student. What are things that your student seems habituated to? And we can sort of [indiscernible]  the concept of learning, and do understand that logical growth and development that your student has made to habituate to that experience.

The next kind of learning is association. So, the example of the spoon and pudding. A student who loves pudding begins to associate the spoon with the pudding. So every time we see the spoon, we assume that the pudding is coming next. That's association, another kind of learning. Then we have anticipation. Anticipation is the anticipation of the pudding when shown the spoon. So it's a shift in state given a cue. And you might see your student smile, or really attend and focus towards that spoon, or look back at you, or reach, or even just shift in posture. We're going to look at some of those subtle forms of orienting and attending. And then there's surprise, which is a mismatch in expectations. So when the spoon is shown and the pudding doesn't come next, the spoon is just being used to get sugar. And that's surprise. It's a mismatch in what was expected. Surprise also implies ability to associate and to anticipate.

So when are we not learning? Specifically, we are not learning when we're, as you can see in the little cartoon on the left, when we are stressed, when we have too much work in front of us, and it's beyond what we can cope with. We're also, obviously, not learning when we're asleep, when we're exhausted. There's a little cartoon of me completely passed out on the low vision textbook, you TVIs might be familiar with, it's a little inside joke for you. But we're not learning when we're stressed, we're not learning when we're exhausted.

What is stress? How is stress good for you, how is stress bad for you, how does stress relate to learning? There's a really wonderful article by David Brown that I would highly suggest you go out and check out. It's called [Stress: Good Cop Versus Bad Cop](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjEsJGYnKDMAhVJPz4KHdYVDYoQFggfMAA&url=http%3A%2F%2Ffiles.cadbs.org%2F200001120-42be643b8f%2FDB%2520Stress%2520article.pdf&usg=AFQjCNHXkRgQBvVNFmxijV1rf6-Dr381aw&bvm=bv.119967911,d.cWw), just a very short one‑page article. And David Brown looks at how stress is a protective response. Stress, in many ways, promotes learning. Stress provides you a challenge and an opportunity to make a decision, and to then learn how to cope with a situation. So, stress can be ‑‑ stress is integral to learning and to forming new connections. We have to be put in those challenging situations to take on tasks. And then biophysically, neurologically, stress release promotes brain development, however, that’s only if it's an amount of stress that's manageable, that we can cope with.

Once you get a level of stress that you can't cope with, or you're met with a situation that you just don't ‑‑ you aren't equipped to deal with, that level of stress can actually ‑‑ if it's provided extensively for long periods of time, it can actually be harmful. And I'm sure you can relate if you've had an experience that just stressed you out so much that it exhausted you, literally exhausted you. And we obviously can't focus, we can't learn when we're that stressed.

And it's not just physically on an informal level. Our brains literally cannot retain information, and cannot build those new connections when we have that level of stress hormone happening. And that's because your body is just trying to survive. It's just trying to get itself back on balance. So the memory‑retaining parts of our brain are not functioning. If you want to learn a little more about the neurological impact and look specifically at the role of the emotional brain, I would really recommend that you look at ‑‑ Perkins had done a wonderful webinar with Dr. Van dyke the role of the emotional brain and how it relates to learning.

So, that role of stress that is just overwhelming and we can't cope with, that's toxic stress. It’s toxic stress because it really is toxic to us. It causes shutdown. The stereotype of toxic stress is that it looks like hyperactivity, nervousness, tantrums, aggressive and self‑ injurious behaviors, kicking, screaming, and throwing chairs, scratching, and all of those lovely things. But, stress can also be extreme under‑responsiveness and inactivity. And it's really important to remind yourself that a student who is at a very, very, very low level of arousal, that doesn't mean that they're not stressed. That can actually be a sign of stress. And if you think about it, it makes sense. When we're extremely stressed and we've been through that intensive release of stress hormone, we feel exhausted. We shut down. It can also come out as refusal from students. It can come out as learned helplessness.

So how do we know when a student is ready for an activity? A study that was done by Green and colleagues, where they asked teachers to identify when they were presenting activities which they were calling training, when were they presenting training to their students with multiple disabilities. And as you could imagine, as you might anticipate, 98% of those teachers said that they were providing training or teaching when the students were alert, as opposed to when they were not alert. It makes sense.

But what's a little bit troubling is that 69% of the time, they were reporting postponing training due to non‑alertness. So they were basically seeing that, obviously you can't present something to a student when they're really not alert. However, we can't just keep postponing opportunities to learn. We do have to identify ‑‑ and hopefully more than that percentage shows, that 70%, we have to identify opportunities to be able to facilitate alertness in our students, and to be able to support them in being available for learning, support our students to be ready for an activity. And that isn't always possible, which we'll get into a little bit more as we go. But it certainly should be possible at a percentage that's more productive than that.

So, how can we promote alertness when a student is not alert? By looking into biobehavioral states, by measuring the specific arousal levels, and by promoting availability for learning through a detailed and very individualized assessment process where we're [indiscernible] when is my student available for learning, and what are all those internal factors, and what are all those external factors that are preventing them from being able to learn, being available to learn, and also, what are the ones that we could manipulate or affect in order to increase availability for learning.

So biobehavioral states, quite simply, we can break that down into states and biobehavioral. States just refers to the condition of a person at a particular moment, how is that person at that very moment, what state are they in. And biobehavioral refers to the influences, the internal and external influences that are impacting the child's state. So, those biobehavioral factors can be internal, such as hunger, fatigue, comfort. Some of those are temporary internal factors that can be impacted by some input by eating or by sleeping, or by receiving some form of comfort. There are also emotions and preferences that go into how a child is feeling biobehaviorally. And then there are those external environmental factors that are often very difficult for our students with multiple disabilities to regulate and to affect change in themselves. So those can be background noise. And for all of you TVIs out there, you can also associate noise with visual clutter, right, for some of your students with CVI or with low vision, there can be visual noise, auditory noise, tactile noise.

The temperature in the room is a big impact, one that's often not discussed. The materials that are in front of the student. And then really specifically, the social contact.

What is going on in terms of the interactions that are happening with the student, and how is that affecting how they feel biobehaviorally, and then what state are they in. It's appropriate for all of the students that you described in your second poll there as serving and working with. Biobehavioral states, I think, really is appropriate to all humans. It's something that we all go through, changes in biobehavioral states. But this type of assessment and this focus on intervention is particularly relevant to students with multiple disabilities for the simple reason that they have difficulty self‑regulating those states. Because they have difficulty self‑regulating those internal and external factors.

So these are students who may be frequently sleepy, may be frequently irritable or at a highly elevated level of stimulation, anxious, shut down easily. They're students who can't effect that basic change in their environment through physical action, or through request. So if they have severe ‑‑ if your student has severe motor impairments and has difficulty with motor control, they won't be able to physically effect those changes. If they are at a pre‑symbolic level of communication, or at an unconventional level of communication, they also might not be able to communicate their most basic needs, either effectively or consistently to the adults and communication partners, and teachers.

So the purpose of assessment, the purpose of any assessment is to develop intervention, right? Hopefully it's not just to collect data. Specifically, biobehavioral assessment should always serve the purpose of increasing availability for learning. We're trying to figure out what's going to bring our student to an increased level from what they're currently experiencing in terms of availability for learning. So it is an assessment that's useful to do not on an emergency level, but it's also ‑‑ you might find it most relevant if you have a student that you just can't figure out how to get them in a place where they can really be focused and attending throughout the day. And you realize that there are a lot of other factors going into what's making that student available or unavailable.

The intervention, which we'll talk about much more specifically after we talk about the assessment process, the intervention basically consists of modifying those internal and external factors, modifying the environment, the presentation of materials, modifying communication and interactions. And those are really specific strategies. Those are strategies that are, you know, general evidence‑based best practices in our field. And then there are ‑‑ and those can be pre‑symbolic communication strategies a lot of the time as well.

Modifying the schedule and the timing. What time of day, and in what sequence of schedule of daily activities and related services is going to best promote that student's availability for learning. And the frequent example that I'll give there is the student has an important academic or concept development activity scheduled right after lunch. Well, we know that the student is exhausted as soon as they finish lunch, so that's probably not the best time to schedule that activity. Some of these things can be prevented and changed easily. Some of them really require a lot of thought, a lot of discussion, and maybe even some sacrifices being made to different areas of the day in order to prioritize opportunities for learning. And I know that can be difficult with related service providers whose schedules are very tight, but it's something that needs to be discussed.

Biophysical management, to what effect can we modify all of those, sort of, very basic functioning internal biophysical aspects. There are two sort of main forms of discussing and measuring biobehavioral states. There are actually many, many, many. When I reviewed the literature, there were about 35 different scales that are used. But these are the two main ones, and most of the other ones are based on modifying these ones.

There's the Carolina Record of Individual Behavior, which is an actual assessment that you can get. And then there's a scale that was developed by GUESS and colleagues. It has been modified and updated. So we're basically looking at giving it a couple different names. This is the one that I really like to use personally, the GUESS one, but you can use either one.

We're looking at sleep states. We're going from top to bottom, most inactive to most active. What is the biobehavioral state that your student is in. There's inactive sleep.

That's really the same as deep sleep over here. That is passed‑out, REM sleep, really obviously not available for learning. Then there's active sleep. We're not in REM sleep or deep sleep anymore. Now we're sort of in this intermediate sleep area where it's not particularly difficult to be woken. And it's also probably not as alarming to be woken out of active sleep than out of inactive sleep. And then we have drowsy. Hopefully none of you participating in this webinar right now are in that drowsy state where your head is kind of nodding and you're struggling to pick yourself up. And then there's daze. Daze is an interesting state. It's just above drowsy, and it's sort of awake, but still not really completely there. So these are areas that we're not learning in. We are literally not capable of retaining information and making those neurological changes in those states.

This preferred awake state, this is where we're learning. We're learning in the inactive alert state, kind of just quiet, but attending. And then active alert, which hopefully that's all of you in the room right now are sitting at the edge of your chairs paying full attention, active alert. As you move up from there, we have awake active stereotypic. This is mildly agitated or fussy. It's a little bit more overstimulated and maybe having a little bit of trouble paying attention. It's not impossible to get back down here with a little bit of support, but now think for our students. When they get to this state, let's make sure that we're finding ways to bring them back down here as opposed to providing them stimulation that is going to bring them right here. Crying, agitated, or uncontrollably agitated, which could even lead to a seizure.

So why is it important? Hopefully by now, you have a sense of why it's important. A child must be in an alert state to receive and process information, to actually learn. Students do not learn when they're in those lower sleepy or higher agitated states. We need to know what brings them to that optimal state, to that active or quiet awake state in order to receive and process information. It's also really important to remember that for all individuals ‑‑ but it's particularly important to remind yourself that for children with severe and multiple disabilities, multiple sensory disabilities, that each of those states does have a purpose. And a student who's really sleeping a lot is sleeping a lot because they need to be sleeping a lot. And that's because of what internal and external factors are around them.

So it's not to say that we can just change that completely and overhaul their internal and biophysical need to be in those certain states for longer periods of time. But it does mean that we can look at how can we provide the best possible opportunities, and how can we shift those external things. And then to what extent can we shift those internal factors to give them the most time possible in an alert state. So you want to begin, before doing any assessment, by getting together as a team and just beginning to think about and ask these questions to yourself informally. And these are great questions that are also in the Robbie Blaha article from TSBVI.

General sort of intro questions for assessment. What are the range of states the child exhibits across the day or the week? What are the child's most common states? You might have a student who really never reaches that active alert state, but maybe they're reaching a quiet alert state, and you want to pay extra attention to, are they able to reach even the quiet alert state? Or if you have a student who's a little bit overactive most of the time, are they able to get back down to active alert, or are they just all of the time in this high agitated state and then crash and sleep?

We want to think specifically about, can your student maintain an active alert or quiet alert state, and for how long can they maintain it? Maybe for just a minute at a time, maybe for five minutes, but can they maintain it. And what problems does the student have in shifting and maintaining states, and what variables appear to, just on an informal basis, appear to affect that state, especially the ability to attend. Some students just cannot attend when there are a lot of people in the room. Some students cannot attend when they are hungry, when they're tired, when they just finished lunch, when they just finished PT, maybe.

So now getting into the real core of the assessment, what are we doing? We are observing, we're collecting data, and then we're analyzing that data. So the part one is sort of the pre‑assessment. You're getting as much information as you possibly can before observing the student. So you should get that information about 24 hours, starting about 24 hours before observation, which does mean that the family is going to be the best ‑‑ the family is most likely going to be the best source of this information.

[indiscernible] Ideal to have this information specifically gathered by the family, otherwise it can be through interview with the family or caregiver.

So the information that you're getting is information on food and liquid intake. All these biophysical things. On food and liquid intake, on medication, you want amount of medication, type of medication. You want to even be looking into what are some common side effects? Is being exhausted a side effect? Seizure activity, monitoring seizure activity at least 24 hours before. Sleep is critical. And it's not surprising that if students have had no sleep, they're exhausted. And is the sleep schedule regular? And then elimination as well.

In the part two, which is sort of the most intensive and challenging aspect, [indiscernible] is when you're actually observing and collecting data. And you want to decide on a recording interval. Sometimes the paraprofessional or teacher assistant can be the best person to be able to get this part of the assessment done. Decide on a recording interval. It can be every one minute. That's fairly intensive, and probably sounds impossible for a lot of educational teams. Every fifteen minutes. Maybe even every half an hour, if that's what you can manage. The shorter the time interval the better, obviously. And basically, every time you hit that interval throughout the day, throughout the school day, you hit the fifteen minute mark, 8:30, 8:45, 9:00, you're writing down what's happening at that exact moment. Not throughout the interval. You're writing down what's happening at exactly 8:45.

And the data that you're collecting is on all of these different factors, and you're trying to find a trend ‑‑ so the time of day, the activity, the state--the biobehavioral state on one of those scales we talked about that the student is in, the position that the student is in, because position has a huge impact on availability for learning. Especially consider our students who are in Rifton chairs all day. I think if I was in that position all day, arched back this way, I would be exhausted, too, or just having a nice nap.

Stimuli, what kind of stimuli is being presented to the student. What are the ambient conditions, the environmental conditions? And then the download that you'll get along with this webinar, you'll see a form that I created from adapting some of the other biobehavioral assessment examples that are out there that gives you all of these. And you basically are just circling your answer for each of these things. And then social conditions. Communication partners. Who is there, how many people, is it the teacher, is the aide, is it a related service provider, and what is the contact, physical contact, conversational, proximity, what is the actual social contact.

If you record throughout the day, you're looking at summarizing the information for each state. So, for active awake state, for active alert state, what are some trends when the student is active awake? What are some trends when they are drowsy? And those trends you'll look at environmentally in terms of position, ambient conditions, social conditions, time of day, all those things. You should assess at least one full school day. I know that this can be challenging. It's something to sit down with your educational team and talk about, what is the best‑case scenario, how can we get this done. If multiple people on the team can also collect the data, you can pass it off to each other. As long as everyone can agree on what those states are and what they look like, there tends to be good interobserver agreement there.

Alternatively, if you have a student who is typically alert for less than one minute at a time, you might consider assessing just one activity at a time in much shorter intervals, say in 30‑second intervals, okay. Here's some examples of that part one, gathering information. These are examples, one that was hand‑written, and one that was through a Smith and Shafer article, also on TSBVI.

So, gathering information. Here we have the real core of the assessment. So we see is that they picked a fifteen ‑minute interval. So they are writing down information on the time, the activity that's going on, the state that the student's in, the position, the stimuli, extra stimuli. And we'll see on the next slide some more specific environmental and social information. What I want you to look at here is this interesting thing that happens. The student arrives in a quiet awake state. Fifteen minutes later, they're having breakfast, feeling a little drowsy. Then, within fifteen minutes later, they go to the bathroom for a tooth‑brushing activity and feel mildly agitated. So I wonder what's happening in that activity. Then a hair‑drying activity, quiet awake, calming down a little bit. Hair‑brushing, calming down a little bit. Makes sense. Those are nice, calm, stimulating activities. And then fortunately the student got into an active awake state that was maintained for some of the more academic and functional activities in the day.

It might not be surprising to you to see that the ambient social conditions were normal temperature here during breakfast. Everything was kind of fine in the classroom, a little drowsy. Went to the bathroom. The bathroom was noisy, with very bright lighting. Hand‑over‑hand manipulation. The student's being kind of pulled around, and it's sort of a forced tooth‑brushing activity, which is not particularly nice in terms of a sensory interaction. And so it's not surprising that the student who was feeling a little drowsy suddenly was in this activity and felt a bit agitated. But then, whatever happened, it quieted down. The lighting was a little better. Hair‑drying, there was talking. Linda must have been wonderfully nice. And it got quiet and nice and comfortable for the student.

All right. So that's the core of the assessment. And then you're just basically sitting down. When you take a look at that form, if you download it, you can see that the last page of that form gives you some suggestions and a template for being able to identify some of those trends in terms of what is impacting, what are the environmental and social conditions that are impacting the availability for learning in each of those different states. So we're going to talk very briefly about intervention strategies. This is almost the content of an entire second webinar, because many of these are specific strategies.

So when I mention the strategies, rather than go into them very in‑depth, I'm just going to ask you to sort of refer to all of the other wonderful resources you can find on Perkins, on TSBVI, Paths to Literacy, various places, National Center on Deaf‑blindness, [Nationaldb.org](https://nationaldb.org/) will have excellent resources on some of the pre‑symbolic strategies. I did want to break these strategies into two different categories. You have interactive strategies [indiscernible] for intervention following this biobehavioral [indiscernible], and then you have systemic strategies, more about collaborative teaming.

So the primary task after you've done the assessment is to use environmental management to create those conditions that can bring a student into an alert state and to maintain it as long as they possibly can. That looks different for different students, obviously. So you use the assessment to figure out what brings a student up just to that level, if they're at a little bit lower drowsy level, what brings them into a quiet awake level. If they're at that mildly agitated level, what brings them down to that active awake, alert level.

So we're looking, really, at sensory access. How can any particular interaction or any particular activity be sensorily accessible to the student, accessible in terms of input as well as preference. So it's important to think about what kind of sensory input does the student prefer. We can break this down into our various sensory channels, okay. So you have ‑‑ there's green on green. We have vestibular channel. Think about what might be a calming vestibular input for a student. Slow, rhythmic rocking can be calming, whereas fast, irregular spinning can be alerting. If you have a student who is in that mildly agitated state, slow, rhythmic rocking for one student might help them get back down. Some of this is intuitive, some of this is stuff you might already be doing, but it's important to think about it in this very specific intervention‑based way and design a program and a protocol for intervention that everyone on the team can use and understand.

For another student, fast, irregular spinning might be calming depending on what their sensory preferences and their sensory input needs are. In the tactual channel, calming might be a firm touch. It might be a deep pressure. It might just be warmth or proximity.

It might be just a light touch on the shoulder can calm a student down. Whereas for another student, a light touch might be alerting. Even a cool touch. If you think about touching something really cold can kind of alert you and wake you up, which is not the most pleasant thing if you're going from a drowsy state. It might get you from drowsy to mildly agitated.

Auditory, if your student has access to auditory information, then a calming auditory input might be soothing music, or an ambient drone can be an auditory calming input. Whereas fast, loud music, turn up the bass on the radio, can be alerting as an auditory input. One of the things we often don't think about are olfactory input, and how can olfactory input also be calming or alerting. It's a little more tricky to figure out, but for some students, this is really an important and preferred channel.

And then you have visual alerting and calming input. So, dim lighting calms you down. Bright lighting can alert you. And so I want you to think about, now, how does this apply to you? What calms and alerts you? And the example that I like to give is about driving. For all of you out there who drive, remember a time or just imagine when you start to get into that drowsy state and you're driving. What do you do? You have a choice. You can pull over to the side of the road and take a nap. Or you can ‑‑ you know, you can pull off, turn off the car. But what you probably do before you do that, before you make that big decision, is you probably try to impact some of these sensory channels. So you might turn ‑‑ you might roll the window down to get the cold air. And you might think that that's going to be alerting. You might just kind of move around a little bit and shift your position, and change your vestibular or your proprioceptive input. You might also turn the radio up. That's a common one as well. So it's important to remind ourselves that we're constantly modifying our behavioral state. And it's because our students are not able to modify their behavioral state themselves that they need this extra attention, and this extra intervention.

What we're looking at really, and what we're looking for in terms of attending, when we talked about how do you know your student is attending, is orienting reflex. And that's a reflexive alerting to significant things. This is best exemplified by when you hear your name called. You look and see where is that coming from, is somebody talking to me.

It's a reflexive shift in a biobehavioral state intended to get your attention on something.

So for our students with multiple disabilities, what is their orienting reflex? What does is look like for each child? For some students, it could just be a change in flushness, skin tone. It might be just a slight change in posture that shows orienting and shows attending. It's important to identify what is that orienting reflex so that we can know if we're making progress, and we can know where to target intervention.

So look at those preferred sensory modalities, those different sensory channels we looked at in the last slide. Which ones are best for gaining a child's attention, for conveying information, and specifically, which ones are best for eliciting orienting reflexes, for getting a child to actually attend and to shift from one state to the next.

For all of you TVIs out there, and anyone else who's seen these forms, this is a sensory channel form that is typically used by TVIs to conduct a learning media assessment to identify primary learning channels, usually for the purpose of identifying reading media.

Is the student going to be a braille or print reader, and then identifying some secondary learning mediums for what specific situations or activities will the student who's a braille reader be visually accessing. That would be a secondary learning medium for a braille reader.

Think about adapting this sensory channel form, or even adapting an entire learning media assessment for a student who has profound intellectual multiple disabilities, deafblindness, severe and multiple disabilities, how can we identify that primary learning channel? How can we identify that secondary learning channel? And I would conjecture that it's the exact same way that we would do it for any student. We're looking at observed behaviors. Take that sensory channel form, you can download it for free just by looking up learning media assessment sensory channel form. Pick an observable behavior, and then write ‑‑ circle which sensory channel is being used, what's the primary sensory learning channel. Is it visual, tactile, auditory? Write down as many behaviors as you observe in the session. You can go one step further, as in this adaptive version of it to add olfactory, gustatory, kinesthetic, you could even break it down to vestibular, proprioceptive.

There's also, Tanni Anthony has further adapted the sensory channel form to look at some specific questions about what alerts the child, what calms the child. These are great tools to sit down with your collaborative team and fill out. Also, great tools to work with the family to fill out to get further information on what are the child's preferences. How do you know that the child is attending, these kinds of questions.

And then one further resource for you here in this context, from Washington Sensory Disability Services, the Washington equivalent of the New York Deaf‑blind Collaborative, they've put together this beautiful tool which is a likes and dislikes tool.

So we're basically gathering information, just informally from what you know about a student about all of the different likes, all of the preferences, okay. And they cover all of the different channels. And then you have a dislikes form. So very useful information to support that intervention after you've done some biobehavioral assessment.

There's some general strategies for interactions. These are sort of interaction‑based behavioral communication‑related strategies. First of all, just observing communicative behaviors, beginning to think a little more critically and a little more subtly about the student's behavior as being communicative, and trying to interpret, well, what is the function of that behavior, even if it's just a shift in posture, or even if it's just a change in temperature or a flushness of skin tone, or a change in breathing. To think of those things as communicative, and maybe even as orienting reflexes, if you feel that they are. And then to start to determine, well, are they basically signs of comfort or discomfort? Are they signs of socially attending, or something else? Making yourself available and providing proximity can be the most basic and the most important interaction strategy.

For a student with multiple disabilities, especially with visual impairments, not able to access that information from a distance, using distance senses, if you're not right there with them, then there isn't ‑‑ the connection isn't happening, and the availability is most likely not happening, either, for learning. Announcing yourself in a way that is successful for the student. Providing constant contact in the form of a soft touch just so that the student knows that you're still there. That can be if you're sitting next to a student, just your knee up against the child's knee. Something very simple, but still providing that constant contact. Consider the positioning that the student's in. Consider the positioning that you're in, especially with our students who are in Rifton chairs and adaptive seating equipment throughout the day. What the best position for real attention? And then waiting. I often say that you can't train somebody to be responsive. You can't train somebody to be caring, or compassionate, or patient. But you can train somebody to count to five before they interact with a student after they've provided a prompt. So just waiting for the child to initiate, providing some input and waiting.

Hand‑under‑hand not hand‑over‑hand. That at this point is just a basic one, not manipulating and pulling a child around, but providing hand‑under‑hand contact.

And I would suggest for a great tool on that one, going to Barbara Miles' videos describing hand‑under‑hand. Now, looking very briefly ‑‑ and I'm going to wrap up after this ‑‑ at some specific strategies.

Touch cues. These are ones for you to look into further. A specific touch on a specific place on the body that conveys a very specific anticipated next event. So, a light touch on the shin might convey we're going to take your orthotics off or put them on. It's concrete information for a student who's not communicating symbolically. Look into touch cues.

Name cues, providing a more concrete form of identifying yourself. It can be just a ring, it could be a bracelet, a way that really represents you specifically, that you're providing as an input for that student to recognize you, much more concrete.

Tangible symbols, the topic of a whole different conversation, to develop symbolism. Switches and other aided AAC. Active learning and the little room. Promoting a student to learn by their own movements and experiences, and facilitate their own concept development in that way. Sensory diets and sensory rooms, [indiscernible] positioning and handling, and the MOVE model, which is what's used in a lot of schools.

Being able to think about what are the very specific positional and handling, and even seating arrangements that are going to be most beneficial for a student to be available for learning. Okay. And look into that as well. And finally, systemic considerations for intervention, because all of those individual strategies, all those communication strategies, they're immediate and they do provide immediate reinforcement and immediate concrete intervention for a student throughout the day, but in order to really create change and to make sure that the intervention is ongoing, staff has to be trained, responsiveness training.

Responsiveness just meaning the ability to run conventional forms of communication, [indiscernible] and to then respond appropriately using those specific strategies that we've talked about. Training staff just to understand biobehavioral states and understand the concepts around availability for learning, and how they apply to our students with multiple disabilities. One of the huge systemic issues that I always come across, and always get some questions about, is just finding the time for assessment. And the only answer I can really give you is that you have to make the time for it. That can be done, obviously, in a variety of different ways. And it always relies, however it works, it always relies on collaborative teaming and role release, and communication from educational team member to educational team member to just prioritize that this is really important to the student's instruction, and we really need to take the time to do this so that the rest of our instruction and the rest of our time with the student during the day, and onward throughout the year, can be meaningful and we can see that true progress.

Another big systemic challenge can be schedule changes. Can it be done, can it be done for you on an individual level? If you're a related service provider, can you manage to shift around your schedule so that you're not seeing the student right after lunch, when you know that the student is exhausted. And then ongoing assessment and making sure that that's a thing that is systemically in place. Okay.

So, I have in the references ‑‑ I know that they're tiny here, they're not the most visually appropriate for you. But you can download the presentation. And I've starred some of the assessments that are practical, functional tools for you as opposed to the others that are often journal articles in content. So, take a look at some of these references and resources. They do include some of the tools that I've shown here, the likes and dislikes and stuff like that. A few more. There's the likes and dislikes, Washington Sensory Disability Services. And that's it for me. Does anybody have any questions? Any questions or feedback?

[Chris Russell] Marcy has asked what is the MOVE model. It's an acronym, I don't remember the acronym. Does anybody remember it? I don't know if we have a chat box.

[Robin Sitten] We don't, actually, but, go ahead.

[Chris Russell]  It's basically a model that's used in schools. I've seen it in several schools in New York state that prioritizes making sure the students shift position throughout the day, and go through the school day in a variety of different positions. And there is a sequence to it. In order to naturally just promote availability for learning.

So it's especially important for students who are ‑‑ who have severe motor impairments, or are in adaptive seating arrangements that they're able to get that ‑‑ to basically practice those PT goals and strengthen alignment and posture throughout the day.

[Robin Sitten] Thanks, Chris. That second question from Dawn was also about the MOVE model, so I'm glad you guys brought that up to talk about it, especially since we've addressed positioning and kids who are kind of maybe in a Rifton chair position all day, or don't have the opportunity to move around. I've seen some nice chairs that will move from a seating to a standing and still give the full support so the student gets a different point of view, and that can also be stimulating.

[Robin Sitten] I want to thank everybody for staying with us the few minutes over. We do have space for questions. We have ‑‑ oh, mobility opportunities via education or experience, says Mary. Thank you very much for adding that. I also wanted to mention, Chris talked about the resources that are in the presentation, and went through them very quickly. We're also offering just the resources as a download on the information page so that you can share them with your colleagues, and maybe with your students, or interns, without having to share the whole thing. So that will also come separately in the assessment tool that Chris mentioned. Faye is saying thank you for the resources. And thank you, Faye, for joining us. Always nice to see you online.

[Chris Russell] We really could only skirt the surface of these, this is what often happens with these webinars.

[Robin Sitten] This was wonderful, says Jennifer.

[Chris Russell] Thank you. Thank all of you. I really appreciate you tuning in.

We try to move these around for different times of day to try to meet as many people as we can.

[Robin Sitten] Marcy, those downloads will be available on the information page. That'll be the same page where you registered. And you'll get a link to that in your thank you message that will come this afternoon. Many more thank yous coming in. Does anyone have a suggested link for the MOVE approach?

[Chris Russell] Somebody said, Guest 2, the mystery person. For those who are interested in MOVE, here's a good link. I didn't see the link.

[Robin Sitten] The link is not attached. Guest 2, if you could share that again, or you can even email it to us at Perkins@elearning, that would be great. Megan was in an active state the whole time she says. Just many more thank yous coming through. Here we go, here's the link. I'm going to ‑‑ let's see, can I do this on ‑‑ I'm going to pop up a note so at least it'll be in the recording, and we'll add it to the resources.

But here is the, <http://themovepartnership.org.uk/The-MOVE-Programme>, and programme is spelled the European way, P-R-O-G-R-A-M-M-E. Debroah said she learned a great deal from this webinar and will be sharing it with educators and interveners in Northern California. Thank-you.

Do remember that these webinars are recorded, and they make great in‑service opportunities. They make great round tables. You can get together with your team and watch it together and really stop and discuss, you know, where Chris maybe asked questions about what you know, you can stop and talk about specific students in your program. And that can be a great way for people to really unite around this. Jennifer watched it with a PT who is a team member, and the entire team has been very focused about this. They feel supported.

[Chris Russell] Thank you.

[Robin Sitten] And thank you.

[Chris Russell] I'm very glad to hear that.

[Robin Sitten] Marcy from South Carolina adds, this was awesome. I'm just reading these out loud, because participants can't see the questions that everyone's posting. Thank you for a valuable webinar, I will definitely share. Guest 2 from the UK, thank you for sharing that URL. That's really great. I've got it on the screen, so it's recorded and people can access it later.

[Chris Russell] I do think the MOVE program is a specific program, but I think that just the principle ‑‑ I don't know as much about the specific program, but the principle, I think, is really relatable to students with multiple disabilities, specifically with any level of motor impairment. So it's a really ‑‑ when I've seen it working, it's a really nice model, and it does promote availability for learning.

[Robin Sitten] Great. Well, thanks, everybody. I know there was a little bit of a delay in getting you guys logged in today. We were having some trouble with the room, but I was able to see that a couple of you who contacted us having difficulty did manage to log in. So, thanks for bearing with us. It's difficult sometimes when we do these live events. We've got another one coming up, and you'll get more information about that. I don't want to say too much, we're working out the final topic.

Also coming up is an introduction to our newest website community through Perkins eLearning, which is Paths to Technology. Many of you may have explored that site. Diane will be here with us to really walk us through that site and show you some of the resources and sharing that's going on there. Chris, always a pleasure. Hope things are well in New York, and we'll be in touch next time. On behalf of all the Perkins eLearning program, my partner Phuong, and Mary, we want to thank everybody for participating today. Bye.

[Chris Russell] Thank you all so much.

## [End of Session, 3:16 p.m. CT]