

Event: AT for Access to Technology and the Curriculum: Motor & Sensory Focusing on Students with Significant Cognitive Impairments

Org: CIDI-Tools for Life

Time 3:00 PM – 4:00 PM Eastern Time

Date: October 05, 2023

TORI: It is 3:30 PM on the dot. I see more people are joining so we may wait another minute or so. I just wanted to let everyone know this webinar is in partnership with the Department of Education here in Georgia. We will have live captioning. It is available on your Zoom if you click the captions button on the toolbar at the bottom of the screen.

You will be able to join via a link I will put in the chat as well for a live transcript. I think we will wait another minute or two to be sure people get in. I know it's at the end of the school day so I know a lot of teachers are trying to be sure students get on the bus or out to the car. On their way home. We will get started here in just a minute.

Do we want to go ahead and get started? Good afternoon everyone and welcome to our second webinar in the series the partnership between Tools for Life and the Georgia Department of Education. My name is Tori Adamson and I am the Outreach Specialist at Tools for Life. We are so glad to have you all with us today.

A bit of housekeeping to ensure we are all on the same page in case we have questions. This webinar is being recorded and will be made available later on the Tools for Life wiki page and I believe also on the Georgia Department of Education website.

Captions are being provided live by our captionist Idellah. Thank you so much for that. We can access those by clicking on the Closed Captioning button at the bottom of the Zoom window. Or you can access them via the link I just put in the chat to StreamText so you can see the full live transcript.

If you have any questions or comments during the webinar, feel free to utilize the chat option. I will be happy to check on those and answer them as they come through. I think that is about it. Martha would you like to add anything?

MARTHA: No I think you covered it, thank you. Hello and welcome to you guys. We are excited to have y'all be a part of the webinar today. I am Martha Rust the Interim Director of Tools for Life. We have had this partnership now in year 4 with the Department of Education and each year would be webinars with the Department of Education.

This is the second one in the series and you're in for a real treat we have Jennifer Ro the presenter today. I've had a sneak peek of the slide so you all will learn a lot of great things. Jennifer I will pass this over to you.

JENNIFER: Thank you Martha I appreciate that. Again my name is Jennifer Ro, speech and language pathologist. I focused on AAC for quite some time. I will not actually provide the number of years because it's been quite a long time. I used to work in the public schools for about 15 years. I recently joined Tools for Life about a year ago.

Today what you're going to do is talk about AT for access to technology and the curriculum. Specifically, John motor and sensory needs for those students who have significant physical and cognitive impairments.

Just to give an idea of the types of students we are trying to focus on for today for sensory needs and motor needs are those students who are likely getting modified curriculum classrooms. Perhaps not all but most will be participating in the GAA assessment. I will turn off my video so I can concentrate on what I am saying. This is what the focus is for today.

What I also want to say is I saw a few names I know in the participant list. Hello everybody. It's good to see you all. I'm glad you could join us. What we're going to talk about today is something I really enjoy and have done quite a bit of when I worked on the district assistive technology team.

I really want to talk about assistive technology and those kids that have multiple impairments. But first for today, we are going to talk about getting a quick overview of what Tools for Life is. How we kind of fit into Georgia Tech universe.

We're going to talk about AT and who qualifies for assistive technology in school. What is it and what might students need? Then we will give a quick overview of some assistive technology tools that can support motor needs as well as assistive technology tools that support sensory and emotional needs. Lastly, a quick run through of how you can get support through Tools for Life. Through the GaDOE Tools for Life AT Partnership.

Moving forward, Tools for Life is essentially Georgia's Assistive Technology Act program. We support Georgians of all ages and disabilities with the opportunity to gain access to and information regarding assistive technology to essentially receive federal funding to increase access to assistive technology.

Our main focus primarily is providing information and awareness and education about assistive technology. We also provide AT device demonstrations and short-term AT loans for trial. We do have an extensive lending library. We also have information and resources in regard to funding assistive technology.

Essentially, we are here to support the State of Georgia for assistive technology. This includes individuals, professionals, school districts and agencies as a whole. Georgia is quite a big state and there is a lot of need. We are looking forward to working with everyone to try to help those folks we work with disabilities.

Tools for Life again is the Assistive Technology Act for the State of Georgia but we are housed within the center of the College of Design at Georgia Tech. That is the Center for Inclusive Design and Innovation. CIDI.

Essentially we are also things accessibility. We have a research side focused on disabilities and we have services and education side. You can see a lot of the different services that we provide and specifically do the GaDOE and Tools for Life AT Partnership.

You will see halfway down the list those are the types of services that we focus on in regard to supporting Georgia school districts through the AT Partnership. Through GIMC, we support braille and Accessible Educational Materials helping provide those materials to students in school districts. Then through assistive technology team, again device demonstrations and loans and information and support.

We also have licenses AT/UDL software like Read and Write for Google and Equati0. We recently launched EdTrade in the summer 2023 which is a AT reuse database that is specifically for K-12. It just launched so we are getting people acclimated right now.

What we need actually are individuals like you to put in the AT so the school district can see what's available, what the district might have to loan. Then they can also post their own items might have available. It allows school districts when we can get it up fully running to save money by reusing AT that may not necessarily being used in the school district they're in.

Getting into the bulk of the session today just so we are all on the same page, what is assistive technology? This definition is from IDEA and it's on the GaDOE website and there is a link. I believe we will be making the handout or the slide deck available. You can get access to this link or go to the GaDOE website. You can find the definition and the information about assistive technology.

Essentially AT and AT devices are any item or piece of equipment or product system whether acquired commercially or off-the-shelf or modified or customized that is used to increase maintain or improve the functional capabilities of children with disabilities.

That sounds pretty broad. Actually it is meant to be. It essentially recognizes all kinds of assistive technology that is required by students. Include hardware and software as well as stand-alone devices and it's meant to be broad so he can get IEP teams the flexibility they need to make decisions about appropriate AT devices for their own students.

The solutions generally considered instructional technology tools, if they have been identified as educationally necessary as assistive technology. These can be considered assistive technology. In regard to what can be assistive technology, it's a continuum of different tools, strategies and services. Anything that can match a person's needs, abilities and tasks they need to complete. It goes all the way from no/low-tech to mid-tech tools to high-tech tools. Highly advanced computerized devices. This falls in the low to light tech category.

What students might need AT? For today, we will be focusing on students with primarily low incidence disabilities receiving their services in Specially Designed Instruction classrooms. The goal is really to look to the present level of academic achievement and functional performance. Ask yourself, can the student access the educational curriculum and technology?

Essentially any student, whether it be in a special education classroom or general education classroom, any student can potentially need AT. Read the present levels of performance as well as you can and look for limitations in there. What you want to do is identify any AT to assist in overcoming barriers to mastering any of the identified goals.

As we all know, the goals in IEP come from the present levels. If the student is having difficulty mastering those goals that have been deemed appropriate or achievable in a year or there is potential, there might be some assistive technology that can be put into place that might help support them.

All components of the IEP come from the present levels and that includes goals and services including any needed AT. This is just a nod to the students in general education classrooms. But any AT put into place to overcome a barrier would be considered tier 2 or tier 3 support. And if there is a barrier in the classroom, you would consider either assistive technology or other educational services, support, and strategies.

For less specialized AT, like those that are considered that type of AT in the educational services or support section and are definitely required for students at all times, you might want to consider putting that AT in the special considerations or special factors for consideration section specifically related to assistive technology.

How do we decide or determine what AT devices or tools a student might need? Something I have used a lot when I worked in a school district was something called SETT framework. A commonly used process of details to consider when thinking about assistive technology for student.

S stands for student, E environment, T for task, and T for tools or strategies. Once you consider the students strengths and needs, the environment and what they are expected to do when and where and the tasks, what is the task and why do they have difficulty? What are the issues? Then you can think about what the tools and strategies might be to actually put into place.

A team is needed to identify the most appropriate tool to try. Identifying AT is really a process with a lot of tweaks. Is AT is put in place sometimes it works and sometimes it does not. But each piece of AT gives you more information. You're closer or further down the road to finding the most appropriate tool.

The link on the bottom goes to a page on the GaDOE website that is a form. It was created by the Georgia Project for Assistive Technology and it has resources and a structured way to consider student environment, tasks and tools. It is a nice form to use because it really keeps things structured. There is a resource manual also along with that to think about the particular issues in relation to these categories.

Let's go ahead and begin talking about AT for technology access. This is to accommodate for motor needs. AT for technology access is quite a bit of technology in the classroom. Some are specialized and some are standard. Touchscreens right now are frequently available for students in SDI self-contained classrooms. Along with regular keyboards and mice as standard ways to access technology.

All students as a whole should have access to technology. They actually really should be given the opportunity to learn how to use the technology according to where they are and what their goals are in regard to their IEP.

One thing I would love for you to ask is to ask yourself if the student has opportunities to learn how to use technology in the classroom in the ways that are independent and effective for them. Again using the SETT framework to help identify if there are potentially other tools that can help them overcome barriers to meet IEP goals. This will be helpful. If there are, evidently think about what kind of alternative access methods could be considered especially for the students who might have motor needs.

These are not really complicated. Motor difficulties can span a range of different students. You have children in general education who may only have motor impairments that are impacting their access all the way down to those self-contained classrooms especially designed instruction classrooms with the kids with the most severe or profound difficulties. But I want you to think of access to technology in 2 different categories.

There are students that use technology as a tool for learning. When I say tool for learning, they are using technology to gain information or to complete activities or lessons. Think of your student who might be writing some sentences on a computer. These are using a computer standard tool for learning.

The second type of category I want you to think about is students who are using technology who are focusing on developing their ability to participate or interact consistently. Interacting consistently and daily during lessons.

In regard to students who are using technology as a whole as a tool for learning, what you want to think about is the focus on standard technology. The student using a tool for their learning. They may have the ability to access the technology using standard touchscreens, keyboards and mice. There may be other times they have difficulty. You want to look at what the difference might give a clue about what AT might be needed.

As a whole, if you're considering there are some difficulties not as efficient or effective for them, the motor impairments might require other access methods such as alternative keyboard or mouse. Perhaps a stylus, joysticks, head trackers or eye gaze devices in order to access the technology.

When motor and cognitive challenges are severe, switches may be needed to access technology. Hopefully that will be a little bit clearer when you might want to consider switches. Switches generally are needed for those students who do not necessarily have great or fine motor control to locate or touch different parts of a screen or a keyboard consistently.

Those typically are the students developing the ability to participate or interact consistently. Because of their severe cognitive impairments, the focus on just having them or encouraging them to respond consistently.

You are just looking at creating a consistent movement so you know they are actually responding to what you say. For those students, they might need switches or basic voice output devices to target their ability to participate or interact.

Just to highlight a few pieces of technology, we've got alternative access keyboards and mice. You see the keyboard on the top left. This is a color keyboard and the keys are color-coded for purpose. They are spill proof.

To the right, this is the DSI left-handed keyboard. If you have a student that has access more with their left hand, you will see on the left the number pad is on the left side. The middle keyboard is the clear keys USB keyboard that has contrasting colors for those who might have low vision.

These are actually mouse alternatives. This tool right here is called the contour roller mouse. It has a reach predesigned. The thin bar at the top of what looks like the armrest is actually a roller. It can be rolled up and down with the fingers or slid left and right to emulate mouse movement. These buttons are positioned for the thumbs. In case somebody does not have a lot of arm movement for accessing the mouse.

This one is another alternative mouse called a big track rollerball; I believe. You will see here for students who may not have good arm movement to move a mouse, they can use a rollerball. You will see they have accommodated possible fine motor issues by putting the mouse click buttons far apart.

These are other alternative access tools that can emulate a mouse. We are familiar with joysticks but I will talk about this one first. This is called a 3D rudder primarily for students. It was created for gaming but can be used as a mouse. The student places their feet on either side of the pads and they can tilt the device to emulate mouse movements or cursor movement.

This is a Quester joystick. Kind of self-explanatory. You have finger buttons to accommodate fine motor movement. This is called the ultra-joystick. Very similar to this in a sense but a smaller base. You will see this and many of the other switches. And it has this on top which is an acorn grip. It can be switched out with a T grip to the left or the foam ball for different types of grips.

The nice thing for this is because of the small size, you can mount it close to the head. A child can operate it with their chin or head. These are head trackers and eye gaze devices. This is called a head mouse nano camera mounted on top of the laptop. This man is wearing a reflective dot. The camera watches where the dot. It's pointing on the screen and again it is a simulator.

This man is using something called a GlassOuse. I don't know the technology here but it's a different type of head tracker where it uses something called a gyroscopic mouse. This actually triangulates. It's a plug-and-play device where it triangulates where the head movements are and move the cursor across the computer screen.

This girl has a laptop with the small slim eye gaze module at the bottom. This one is not a head tracker but tracks the eyes. This is actually a switch piece here. This man is using the GlassOuse to navigate. This is a switch to do a mouse click. This which is a puff switch. When he puts his cursor on an icon and blows a puff of air, it makes a selection.

There are many different switches that can accommodate different movements or different consistent responses. Again, you can use which is as mouse clicks. But you can also use which is to target communication or responses like the kids who are really working on responding consistently.

Here are some alternative access switches. If you are using something like GlassOuse or perhaps the roller mouse you would get your cursor this is a candy corn which is a proximity switch. For those with limited movement. If you swipe or move your arm close to it, it will activate the switch.

This is a foot pedal that requires greater pressure. Pressing with your foot is a gross motor movement. This one with the red bar is called a pick switch. Manipulating that are bending it will access the switch. These are designed for different types of movement.

This is a step-by-step switch which has voice output but can be activated by hand but it can also be activated by any of the other switches. You see the cord? You can plug it into the step-by-step. So for students who are working on just responding consistently, this is the movement whether it's grasp or pinch. The student who is working on responding consistently can activate the switch and this might say yes, that is the one when is the step-by-step is activated.

This is a micro light switch that is smaller in size and requires very little pressure. This is a special Bluetooth switch and I call it special because it's actually Bluetooth enabled. It can actually access computers as well as an iPad. You can plug any of the switch into it to use it to access this iPad or any iPad or device.

I spoke a bit about interfaces with technology. Not all switches are plug-and-play. You can't necessarily just plug them into a computer. With some switches, you will need to plug them into something called a switch interface.

This is a hitch 2.0 which is plug in USB. Also on the side you can plug in any of the switches. This one is environmental control unit four AT. Four AT tools. You can operate electrical appliances such as blenders. You will plug the blender into the cord on the side.

There are ports on the side over here to activate the blender to turn it on or off this is a special one we got in the lending library. It operates environmental controls and provides environmental control to your iPad. It is app enabled and you can actually have a menu of devices with a menu of commands. You can access by switch to say turn your lights on, for example. It would just need to be programmed.

One thing about motor movements is you want the motor movement to be consistent and efficient and natural. You want to make sure it's reliable and repeatable when desired. Efficient and effective and natural. You want to minimize strain or potential for any repetitive stress injuries. It's really key if there is a concern, to definitely talk with the OT or PT to talk about the most appropriate motor movement for switch use.

We now move into AT for educational curriculum access. I know we are running a bit short on time. I'm going to try to speed through it. I want you all to think about the classroom. What that means, the level of need our students have in the classroom just to engage in learning.

Overall -- and I talk about this a lot to teachers in SLP -- if we can design the best lessons, we guarantee the opportunity that students are going to learn. We definitely want to try to maximize learning. If teachers in SLP and anybody working with students can design lessons that incorporate the 3 elements, these are the concepts to focus on to maximize learning for all students.

If teachers and staff can foster student engagement and interest in the lesson, they will be motivated. They have an idea what to expect or the lesson will be predictable and they hopefully can understand the elements of the lesson. This includes academic concepts or targets that are meaningful. Methods of presentation that are meaningful. Some rely on the verbal and some rely on the visual.

Some find experiential experiences a lot more meaningful. Think about that. Also, if students can be allowed multiple opportunities in various ways to show what they know and participate as independently as possible during the lesson, they will be able to engage.

AT students during instruction despite all the planning, students often have neurological challenges that impact learning despite all the design lessons. If you want to read a bit more about this, this graphic can be found here. [CAST.org](https://cast.org). Universal Design for Learning.

Specially designed classrooms are all kinds of different ways a child can access. We just talked about physical access. It's fairly obvious if a child cannot touch materials or manipulate them in standard ways, that can be a barrier to learning.

There are other ways like a loss of hearing or vision or learning disability where a child might be unable to read or write. Also there are emotional and sensory regulation needs. Other ways that impact the child's ability to access the materials. AT can actually support this. If a student is not really well-regulated, they are failing to learn in the moment. Many term the state of availability as being sensory or emotionally regulated.

Really in addition, teachers have a huge job. In addition to supporting their students in designing lessons, there is something they have to look for which is facilitating the ready to learn state. If you had a migraine headache or you've been up over 24 hours and you wind up going to class for some reason or going to some kind of lecture, think about how you'd feel. Are you ready to learn despite the fact of how motivated you are?

Same thing as a child who might be impulsive and might need to move around a lot or feels antsy. The types of students here might present early developmental stages. These are the kids who are in many of the modify curriculum classrooms. Once in a state of extreme dysregulation, it takes time for students to come back to a well-regulated ready to learn state.

Our hope is you might be able to find some AT that might support those sensory and emotional regulation needs. We will go through a few. This is certainly not an exhaustive list but I want to provide some thoughts on AT for emotional regulation. There are different ways you can think about AT for emotional regulation.

There is calming activities and there's organizing activities. There are reasons why kids need calming or organizing activities. For these types of AT, the goal overall is to provide some sort of structured environment so the student feels safe. That the environment is predictable in order to minimize any anxiety and frustration.

Here you will see visual schedules and this has some timers built in for predictability. Within test schedules that helpful. If a student finds a lesson less than optimal or interesting, they know what they actually have to do in order to move onto the next thing.

These are timers also to give some idea how much time is left of work time before break. There are some examples of timers that have been used in the classrooms I visited. Then there is some calming AT for emotional regulation. The goal here is to provide support and strategies that are available for managing emotions or sensations.

I will tell you; emotions and sensations are so difficult to proactively teach. It's almost like you have to have the support in place. After they get through the emotion or feel the sensation, then you have to teach it. It's having those tools in place before the emotion or the sensation happens so you can actually teach it.

What you want to think about are visuals or apps that assist in recognizing and understanding and managing emotions. If you think about the zones of regulation, the five-point scale, those are visual supports. They can be readily up and available so student can start self-monitoring. Encourage combining strategies or social stories option two receptor breaks or the potential to retreat to other locations.

There's also organizing activities. Some of these are oral motor sensory support. Anything that is chewy that and organize us. Sucking and vibration are also organizing sensations. Think about implementing relaxation apps or even squeezing into small tight spaces. This is a body sock that allows a student to move in push and pull in a tight confined space.

Then there is also AT to facilitate sensory regulation. Some of the things we will touch upon include these kinds of sentences. Some of your students may exhibit emotional dysregulation but sometimes the emotional dysregulation actually might be related to sensory needs. If you can give them the understanding of the why so you can determine the most appropriate AT strategy might be needed.

There are variety of different needs that can be accommodated through sensory strategies. These are some visual tools. Dim lights or lamps, sheer coverings over fluorescent lights. These are a few sensory apps I played around with that are needed for children sitting at tables. Aquariums, bubble tubes, anything that meets the need in regard to their visual needs. Do they need it brighter or do they need something more calming? Are there color schemes that are more appropriate for them?

AT for sensory regulation related to touch and fine motor proprioceptive senses. Fidgets , Velcro and soft fabrics, flexible seating, weighted blankets and vests. They even have weighted stuffed animals as well. That might be something that might be kind of fun for child.

Then gross movement. Looking at swings in hammocks, crash mats, trampolines. These are most appropriate in a sensory room. Movement breaks. AT for sensory regulation. There are auditory tools as well.

One of the items we have that might be something interesting for anyone to borrow would be something called a Skoog music making device that's accessible. These are strategies are tools for auditory support.

In regard to the taste and smell sensory needs, if you find a student who is kind of sleepy or needs their engine revved up, these are some alerting types of tastes. Taste supports. Anything that is sour or minty or spicy. The crunching aspect also. Those that are calming.

Warm or smooth or thick foods. Chewing or sucking is also calming. Organizing kinds of movement. For olfactory you will need to play around with it see what their needs. Incense, essential oils, perfume, or scent free zones.

The biggest thing really is when you're looking at implementing AT tools for strategies, look to see what the purpose is. I've seen a lot of classrooms where they have standard sensory breaks. If it is a regular time, the student may not necessarily need the sensory break at that time.

Sensory breaks to incorporate or to support sensory needs actually are most effective when the student needs it. You might want to consult with your OT when needed. Again ask, is it anxiety, frustration or sensory needs? Next, what type of sensory input might be needed?

In regard to support -- and this is the last slide -- this is what we're doing as part of the partnership. There is an online order form to request AT support from Tools for Life. This includes requesting software tools for students with IEPs, device demonstrations or loans. Also requesting technical assistance through what we call consultative collaboration.

We will help district staff with their students and support you in your staff and whatever AT information or resources you might need. Again EdTrade as I mentioned earlier and I apologize for running a bit long. I wound up talking a lot. But I hope this was helpful. Thank you all for joining me. I am so glad I got a chance to talk to all of you.

TORI: Thank you so much Jennifer. We did have one question comes through. James asked: You mentioned that a team is needed to determine AT needs. They have a parent advocate that requested AT evaluation. Does that mean we need a specialist to do an evaluation like a psych evaluation by a psychologist? Or can school staff work on the issues as a team and make recommendations based on the trials? I was not sure if it had to be a specific kind or type of specialist to complete the evaluation.

JENNIFER: That is a good question. In the district I worked in, assistive technology could be considered at the school level when a parent generally asked for assistive technology evaluation. In our district, we permit consultation because evaluation winds up giving the impression it's a one and done kind of thing. We know Assistive Technology is a process. It is a trial.

In regard to a team and having a specialist do and assistive technology evaluation, you will likely have staff at your school who know about assistive technology. But if you do not, Tools for Life can support you or your district in helping you get the information and the resources you need in order to complete the AT evaluation.

From what I recall, and don't quote me, but I don't think there are particular guidelines that they has to be an assistive technology specialist to do it. I don't think there's any particular certifications that deem somebody an assistive technology specialist.

There are certifications called ATP but you don't need it to do assistive technology in schools. That is a very long answer to essentially say it really kind of depends. It depends on people who have the knowledge. Does that answer the question James?

TORI: James said okay, thank you. I think that definitely answer the question! Okay if there are no other questions, that will conclude today's webinar. Again, it's 4:15 PM so we went over by about 15 minutes or so but that's okay. Jennifer Ro had an extensive knowledge to share and we appreciate that.

Again, this presentation will be available on the Tools for Life wiki page. My goal is to have it up by the end of the day tomorrow. I will ensure everyone has access to it and I will send an email with the link to everybody who has registered.

That concludes our presentation for today. Martha is there anything to add? I'm not sure of Martha may have stepped away but that should do it for us. There will be another webinar in the series.

MARTHA: I'm sorry! I don't have anything to add. Thank you also much for spending your afternoon with us.

TORI: Thank you so much we will have another webinar in the series next month be on the lookout for information about that. We will see everyone later. Thank you so much for joining us.

JENNIFER: Goodbye everybody and thank you.

Session Ended.

This is a Captioned transcript provided by CIDI to facilitate communication accessibility and is not a verbatim record of the classroom session.