AT for Access to Technology and the Curriculum: Motor & Sensory

Focusing on Students with Significant Physical & Cognitive Impairments

October 5, 2023
AT Partnership Webinar Series
GA Dept of Education | Tools for Life

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Agenda

- Tools for Life & the Center for Inclusive Design and Innovation (CIDI)
- Who Qualifies for AT in School
- What is AT and what might students need? Definition of AT and the Continuum
- Access to Technology and Educational Curriculum via AT
  - Assistive Technology to Accommodate Motor Needs
  - Assistive Technology to Accommodate Sensory & Emotional Needs
- How to Get AT Support for K-12 - GADoE/TFL AT Partnership

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Tools for Life

Tools for Life (TFL), Georgia's Assistive Technology Act Program, provides Georgians of all ages and disabilities the opportunity to gain access to and acquire assistive technology devices and service so they can live, learn, work, and play independently in the communities of their choice.

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Center for Inclusive Design and Innovation

- Disability-related research
- Accessibility consulting – ICT and UX
- Captioning and Described Media Services
- Professional E-Text Production

*** GADoE & TFL AT Partnership Services ***

- Braille and AEM
  - K-12 through GIMC
- Assistive Technology Team (Tools for Life)
  - AT Device Demonstrations & Loans, Information/Support
  - AT/UDL Software – Read&Write, EquatIO
  - EdTrade – AT Reuse Database

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What is Assistive Technology?

- An Assistive Technology Device is:

"Any item, piece of equipment or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of children with disabilities."

- GADoE – Assistive Technology and IDEA

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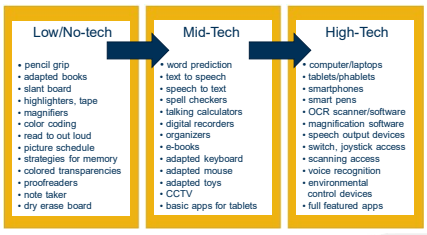
Assistive Technology Continuum

Assistive Technology is a ***continuum of tools, strategies, and services*** that match a person's needs, abilities, and tasks.



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Which Students Might Need AT ?

- Potentially any student!
- Ask yourself, "Can the student access the Educational Curriculum and technology?"
- Look for limitations stated in the Present Levels of Academic Achievement and Functional Performance (PLAAFP)
- ... And identify AT to assist in overcoming barriers to mastering any of the identified goals

Remember, all components of the IEP are derived from PLAAFP.
Goals and services, including any needed AT.

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Impacts or Barriers to Learning- Tiers 2 & 3

Professionals and school staff should consider:

- Assistive Technology

OR

- Other Educational Services, Supports, Strategies

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Identify Tools or Strategies - SETT Framework

S ... Student
E ... Environment
T ... Task
T ... Tools (or Strategies)

Should include a team:

To share knowledge, to collaborate and communicate ideas, & to provide multiple perspectives about each of the above.

SETT – AT Consideration Process, GADoE

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AT for Technology Access

- to accommodate motor needs

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AT for Technology Access

- All students should have access to technology in the classroom as part of their educational curriculum.
- Touchscreens are frequently available for students in SDI self-contained classrooms, along with regular keyboards and mice as standard ways to access technology
- Many students in SDI classrooms have difficulty accessing technology for learning using these standard methods because of motor, cognitive, or other impairments.
- Alternative access methods should be considered

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Alternative Access for Technology - Motor

- For students who are using technology as a **tool for learning,** to gain information or to complete activities or lessons
  - May have ability to access technology using standard touchscreens, keyboards, & mice
  - Motor impairments may require other access methods: alternative keyboard or mouse, stylus, joystick, head trackers, eyegaze devices to access the technology
  - When motor or cognitive challenges are severe, switches may be needed to access technology
- For students who are developing their ability to **participate** or **interact consistently** daily and during lessons
  - May need switches or single switch (or basic) voice output devices

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Alternative Access – Keyboards and Mice

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Alternative Access –Joysticks

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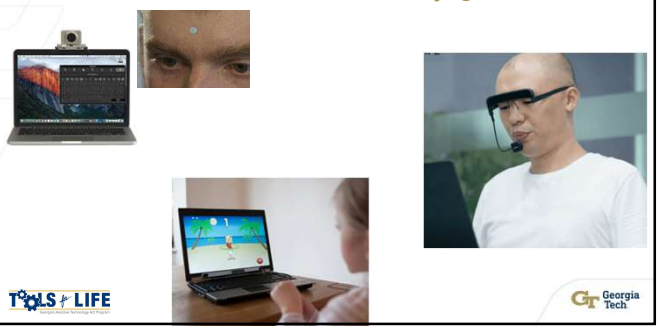
Alternative Access – Headtrackers, Eyegaze devices



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Alternative Access – Switches

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Accessories to Interface with Technology

- USB Interfaces for AT Tools with computers/tablets
- Bluetooth Interfaces for AT Tools with computers/tablets
- Environmental Control for AT Tools with electric or home appliances
  - Powerlink
- Environmental Control – Bluetooth-enabled, app controlled
  - Tecla-E

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Motor Movements – Consistent, Efficient, Natural

- Consult with OT/PT to identify the most appropriate motor movement
- Consistent, reliable, and repeatable when desired
- Efficient and effective
- Natural and minimizes strain or the potential for repetitive stress injuries

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AT for Educational Curriculum Access

- to facilitate sensory and emotional regulation

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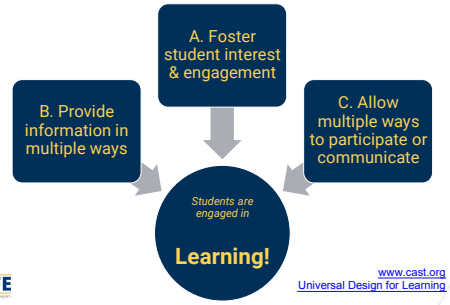
To Maximize Learning? Great lessons include AT



www.cast.org
Universal Design for Learning

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Specially Designed Instruction (SDI) Classrooms

Students often have multiple disabilities and factors that impact ability to learn.

Learning and participation may be impacted globally to a severe or profound degree.

Sensory and social-emotional factors additionally impact ability to receive and participate in instruction

Optimize students' ability to learn; to both receive and participate in instruction.

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Facilitate the "Ready to Learn" State

Students who are sensory or emotionally dysregulated will have difficulties learning, regardless of their interest or their abilities.

When we don't quite "feel right" either from the sensations around us or our general emotional state, learning can be challenging

Consider AT to facilitate sensory and emotional regulation proactively to prevent or minimize a state of dysregulation.

Assistive technology tools and strategies can facilitate your students' ability to stay well-regulated and be ready to learn.

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Proactive AT for Emotional Regulation (Anxiety-Calming)

GOAL-

a structured environment so that it feels safe and is predictable to minimize anxiety and frustration

- Visual Schedules
- Within-Task Schedules
  - pictured or written task steps
  - help box
- Timers
  - classroom screen timers … https://classroomscreen.com/
  - timer apps
  - phone timer

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Proactive AT for Emotional Regulation (Calming)

GOAL-

Support and strategies are available for managing emotions or sensations through visuals (& other methods) or through availability of breaks when needed

- AT visuals or apps that assist in recognizing, understanding, and managing emotions
  - Provide visual cues (written or pictures)
  - Encourage calming strategies
  - Social stories or AT tools to support/develop ability to self-monitor emotions
- Option to "reset" through breaks – for brain breaks or movement breaks
- Option to retreat to a different location when in extreme dysregulation or to prevent extreme dysregulation

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Proactive - AT for Emotional Regulation (Organizing)

GOAL-

Certain sensations or actions can be calming and can organize one's ability to receive information; in the moment or supports available in a safe "break" location

- Oral-motor sensory support:
  - chewy foods/chewing- sugar-free gum, beef jerky, dried fruit, bagels, jello "jigglers"
  - chewy tubes, "chewelry"
  - Sucking- thick shakes, hard sugar-free candies & lollipops, twisty straws
  - Vibration- electric tootbrush
- Relaxation Apps
- Squeezing into small tight spaces
  - body sock, hammock-like seating, bean bag chairs

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AT to Facilitate Sensory Regulation

- Auditory – sound/hearing
- Olfactory – smell
- Gustatory – taste
- Tactile – touch
- Vestibular – movement
- Proprioception – input from muscles and joints

- Based on the identified purpose, AT can either be calming/organizing or alerting. This can be provided through sensory input that is desired or by minimizing sensory input that is overwhelming.

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AT for Sensory Regulation – Visual Tools/Strategies

- Dim lights or lamps
- Sheer coverings over fluorescent lights – can use color to support identified needs
- Sensory apps that provide caliming visual stimuli
  - Heat Pad HD- option to turn sound on/off
  - Sensory Magma ...
  - Sensory Lightbox ...
  - Sensory apps that provide calming visual stimuli
- Aquariums, bubble tubes, lava lamps
- Covers over computer screens or calming screen savers
- Color schemes for visual needs (CVI, low vision, etc.)

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AT for Sensory Regulation –Touch, Fine Motor, Proprioceptive

- Tactile fidgets for sensory needs & moving hands in purposeful way
  - Bean bags, stress balls/shapes, bubble wrap, fidget pops
  - "fidget apps" on iOS, android
  - Velcro, soft fabrics attached under desk

- Flexible Seating for sensory needs
  - Wiggle/tactile cushions, vibroacoustic cushions/seating, stretchy therapeutic bands at feet
  - Ball seats, Big Joe chair, couches, rocking chairs, swings
  - laundry baskets
- Weighted blankets, vests, stuffed animals, bean bags

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AT for Sensory Regulation – Gross Movement

- Swings, hammocks
- Crash Mats, trampolines
- Standing/walking with heavy items (backpacks, books)
- Movement breaks for gross motor movement
  - Stretching, dancing, exercising

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AT for Sensory Regulation – Auditory Tools

- Noise-cancelling headphones with or without auditory stimuli (music, white noise, etc.)
- Music or environmental sounds to promote appropriate sensory state
- Sensory apps that provide calming auditory stimuli
- Skoog - accessible music-making device,
- Soft materials/curtains to dampen sounds
- Lower vocal volume and voice inflection
- Moving to a quieter room

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AT for Sensory Regulation - Taste / Olfactory

- Gustatory - taste
  - Alerting – sour, minty, or spicy foods, adding flavor sprays
    - crunching
  - Calming – warm, smooth, or thick foods
    - Chewing or sucking/sucking thick drinks through straw
- Ofactory - smell
  - Incense, essential oils,
  - Perfume or scent-free zones

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Include AT Tools or Strategies for a Purpose

When determining how to help your students self-regulate, identify the specific needs to determine an appropriate sensory support. Consult your OT when needed.

When emotional or behavioral challenges exist, ask what is the reason or cause? Anxiety, frustration, sensory needs, etc?

- What type of sensory input is needed or must be minimized/removed?
  - Calming/Organizing, Alerting?
  - Visual or Auditory?
  - Tactile, Proprioceptive, Movement?
  - Olfactory/Smell or Taste?

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GADoE/TFL Assistive Technology Partnership

AT Partnership began January 2020

- Online AT Portal developed to request AT Support for GA school districts, state schools, and LEAs
  - •Request AT/UDL software tools for students with IEP's
  - •Request AT device demos or loans for 4-6 week trials
  - •Request technical assistance through "consultative collaboration" with district staff for their students
- EdTrade 2023 – online database focused on AT Reuse between districts/LEAs

AT Partnership Info – GADoE website

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Questions?

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Contact Us

Tools for Life, Georgia's Assistive Technology Act Program

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