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Assistive Technology in the Classroom

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Presented by ATLAS, a program of Easterseals Crossroads partnered with Indiana Department of Education

INDIANA DEPARTMENT *of* EDUCATION

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In This Presentation

1. Overview of ATLAS Program
2. Intro to Assistive Technology (AT) in the Classroom
3. Categories of Assistive Technology
4. Special Considerations
5. Q & A

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Meet the ATLAS Team!

Keri Bridges
Program Manager

Kaitlin Hill
Lead AT Specialist

Raine Sims
AT Specialist

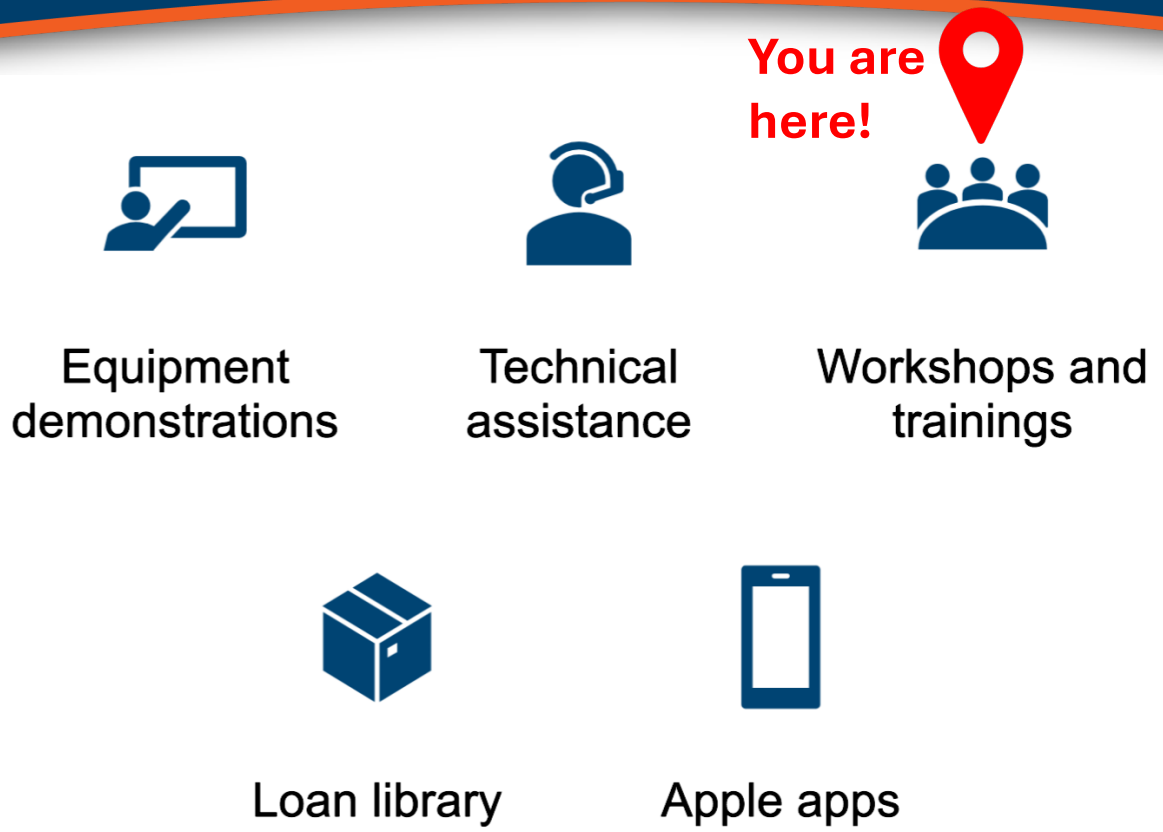
Erin McCreedy
Loan Library Lead

Hope Yeoman
Loan Library Assistant

ATLAS Services

The ATLAS Project offers an Equipment Lending Library, a no-cost service, that loans assistive technology devices, tool, apps and resource materials to school personnel at Indiana's Local Education Agencies (LEAs).

Unless otherwise noted, all items mentioned in today's presentation are available for 6-week loans through ATLAS.



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Technical Assistance

Work with one of our specialists for on-site and virtual support in selecting assistive technology appropriate for your students' needs. Keep items you wish to trial for a 6-week loan period.

For technical assistance, submit a TA Request Form through our website: k12atlas.eastersealstech.com

Equipment Loans

Don't need hands-on assistance? Request items directly from our catalog. Items will be shipped to your school for 6 weeks, and we'll include a return shipping label to help you return the items at the end of the loan period.

For equipment loans, request items through our AT4All catalog: k12atlas.at4all.com

Questions? Email k12atlas@eastersealscrossroads.org for info.

Learning Objectives

As a result of this activity, participants will be able to:

1. **Explain** two ways that assistive technology (AT) can reduce barriers to academic access and support student participation.
2. **Identify** at least three evidence-based AT tools or strategies that promote student engagement and learning.
3. **Evaluate and select** three appropriate AT tools and strategies to support specific academic tasks and classroom needs.

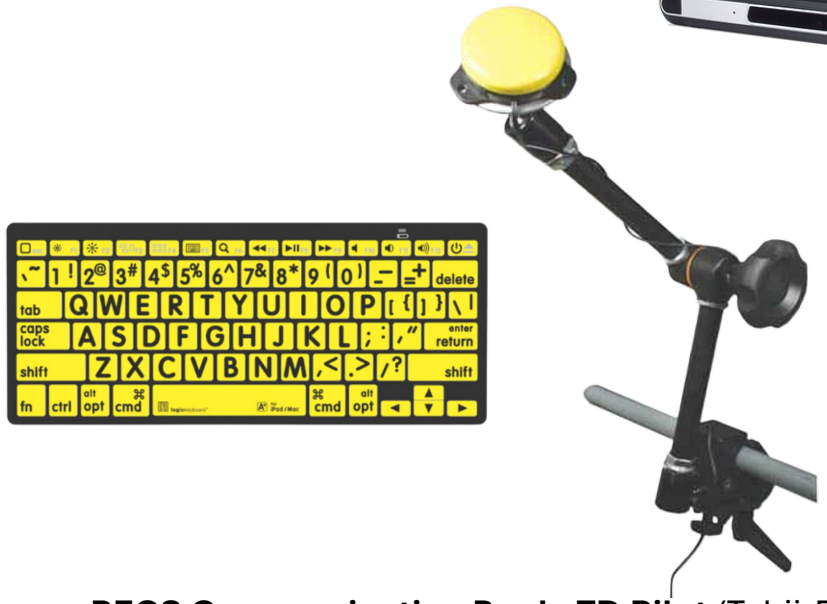
What Is Assistive Technology?

Assistive technology (AT) is any **item, piece of equipment, software program, or product system** that is used to **increase, maintain, or improve the functional capabilities of persons with disabilities.** (ATIA, 2025)

Assistive Technology Industry Association. (n.d.). *What is AT?* Retrieved May 15, 2025, from https://www.atia.org/home/at-resources/what-is-at/

Types of AT

- **Low-tech**, such as picture communication boards, sensory items
- **High-tech**, such as eye gaze AAC
- **Hardware**, such as mounting, prosthetics, or positioning devices
- **Computer hardware**, such as special switches, keyboards, or pointer devices



Top row: **PECS Communication Book, TD Pilot** (Tobii-Dynavox)
Bottom row: **Large Print Black on Yellow Keyboard** (LogicKeyboard), **Magic Arm Mounting System** (Enabling Devices)

Types of AT

- **Computer software**, such as screen readers or communication programs
- Inclusive or specialized **learning materials** and curriculum aids
- Specialized **curricular software**
- And much more!

What assistive technology (AT) have you already used – or seen used – in classrooms?

Who May Benefit From AT?

Individuals with:

- Intellectual and developmental disabilities (IDD)
- Specific learning disability (SLD)
- Hearing loss or Deafness
- Dyslexia
- ADHD
- Autism
- Sensory differences
- Physical disabilities
- Limited mobility
- Cerebral palsy (CP)
- Speech disorders
- Communication impairments
- Blindness or low vision

... and everyone else!

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Assistive Technology (AT) in K-12 Classrooms

AT for Mobility & Adapting the Environment

Target population examples:

- Physical disabilities
- Limited mobility
- Multiple disabilities

Devices for Positioning and Mobility

- Walkers
- Crutches
- Manual or power wheelchairs
- Specialized sitting options for promoting proper positioning and comfort
- Adjustable desks/tables to meet sensory/positioning needs
- Mounts for AAC devices
- Adapted physical education equipment

Special Tomato Soft-Touch Sitter on Mobile Base

Rifton Elbow Anchor

Rehadapt ConnectIT Table Mount

Eye Gaze

- Control a computer, tablet, or other electronic device using only eye movements
- Helpful for students with significant physical disabilities
- Use infrared cameras and sensors to track the movement of the user's eyes and interprets those movements as a computer command
- On-screen keyboard and command menu
  - Select options by gazing at a specific spot for a predetermined period (dwell time)

Top**: TD i-16**
Bottom: **TD Control**

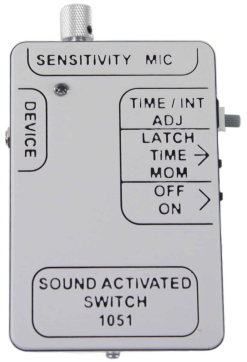
Switch Access

- Alternative to a traditional keyboard or mouse
- Can be used as a direct control for a computer or as a switch scanning system to interact with software
- Can be used in single-switch or multi-switch configurations
- Use a switch interface like the **Hitch 2** (pictured)

Common Switches

Top Row: Button, Joystick, Wobble, Saucer
Bottom Row: Pinch, Plate

Subtle Movement Switches



Top Row: Tilt, Eye Blink, Sip and Puff
Bottom Row: Motion-Detected, Finger, Sound Activated

Joystick and Trackball

- Alternatives to a traditional mouse, good for students with limited hand and finger coordination
- **Trackballs:** User rolls a ball to move the cursor
  - Example**: BIGtrack Trackball** (upper right)
- **Joystick**: Similar to gaming controllers, they can be used for precise cursor control
  - Example: **Optima Joystick** (bottom right)

Head Pointers

- Different styles on the market
- Use head movements to direct cursor

Top: **HeadMouse Nano**
Bottom: **Quha Zono**

Recreation

- **Switch-adapted toys and games** promote inclusion and leisure participation for students with motor challenges
- Accessible video gaming devices facilitate social engagement and encourage problem-solving

: Left to Right: **Swirl Art, Alphabet Jodey, All-Turn-It Spinner, X-Box Adaptive Controller**

Recreation

- Adaptive tools allow students to express themselves in multiple forms (text, speech, drawing, music, etc.)
- Can offer fine motor aids, communication aids

Left to Right: **Functional Hand, EazyHold Universal Cuff, Adapted Bongo Drums, Talkable 4**

AT for Speech Communication

Target population examples:

- Communication impairments
- Speech disorders (e.g., low intelligibility or dysfluency)

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Augmentative and Alternative Communication (AAC)

Includes **all ways of communicating** besides talking.

- **Augmentative**: Adds to existing speech.
- **Alternative**: Replaces speech when necessary.

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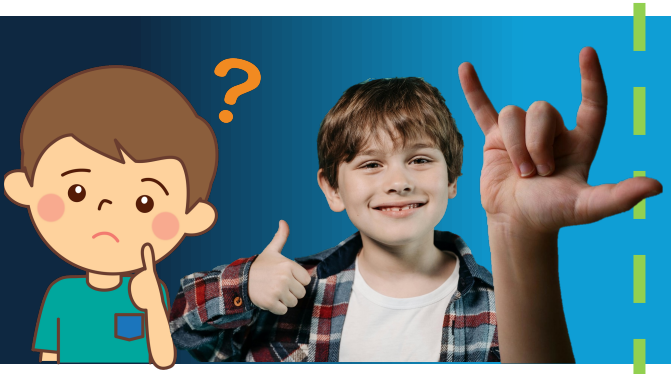
No-Tech AAC



- Facial expressions
- Gestures
- Manual signs

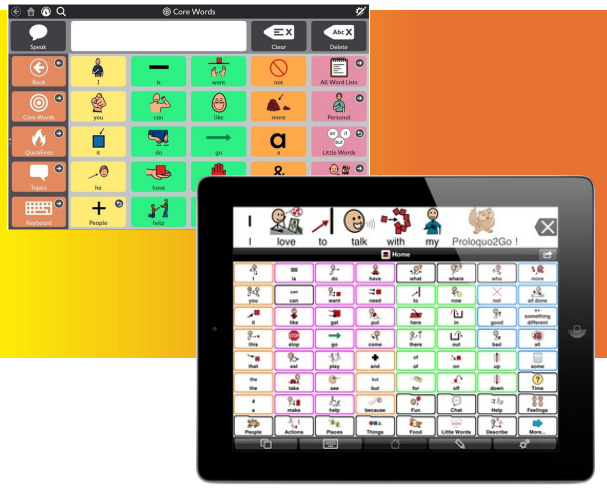
Low-Tech AAC

- Symbol cards
- Picture books
- Communication boards

Mid-Tech AAC

- Switches
- Single-button communicators
- Multi-button communicators

High-Tech AAC



- Tablet with apps
- Dedicated speech-generating-devices (SGDs)
- Eye tracking devices

High-Tech AAC: Eye Tracking

- Eye gaze-enabled devices with communication apps allow individuals to control a computer, tablet, or other electronic device using only their eye movements
- Helpful for students with significant physical disabilities and little or no verbal speech

Left to Right: **Tobii Dynavox i-16** and **TD Pilot**

High-Tech AAC: Communication Apps

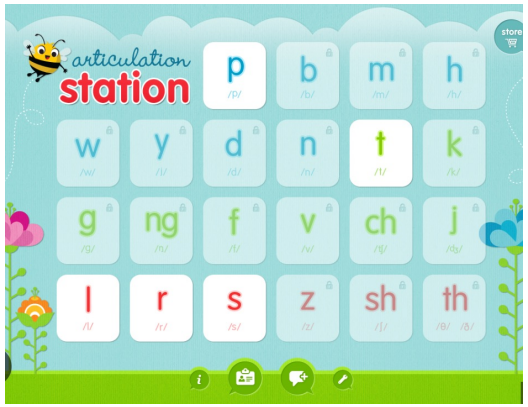
Apps are an affordable option to assist with communication, compatible with a variety of access methods.

- **Proloquo2Go** (iOS)
- **TouchChat HD** (iOS) or **TouchChat Express** (Android)
- **TD Snap** (iOS, Windows)
- **LAMP Words for Life** (iOS, Windows)
- **GoTalk Now** (iOS)

Language and Literacy Apps

Target skills like vocabulary building, sentence formation, comprehension, and social communication

- **Tiggly:** A collection of apps to help students learn letters, numbers, and shapes with a combination of physical manipulatives and apps
- **Articulation Station Pro**: Designed to help children practice speech sounds



AT for Hearing

Target population examples:

- Hearing loss
- Auditory processing disorder

Captioning

Speech-to-text technology

- Real-time captioning in which a trained stenographer quickly transcribes speech into written text that is displayed on a screen
- **Caption Companion:** Portable tablet that utilizes AI captioning with no subscription or internet needed

Captioning, continued

- Live and closed captioning are available on all major computer/ phone operating systems, including PowerPoint and Google Slides
- **YouTube, Edpuzzle, Khan Academy**, and others offer automatic and customizable captioning options
- Third party captioning software
  - **Captify**: iOS app
  - **Ava**: Desktop (Windows/Mac), App (Android/iOS)

Classroom Listening Devices

Microphones may be worn by the teacher/speaker and sound is wirelessly transmitted to the student's headphones or hearing aids.

- **Roger Touchscreen Mic (Phonak)**
- **Oticon EduMic**
- **Williams Sound Personal FM System**

UbiDuo 2 (pictured)

- Generates speech from typed text to bridge the gap between Deaf, hard of hearing, and hearing communicators (can also just type)

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AT for Learning, Cognition, and Development

Target population examples:

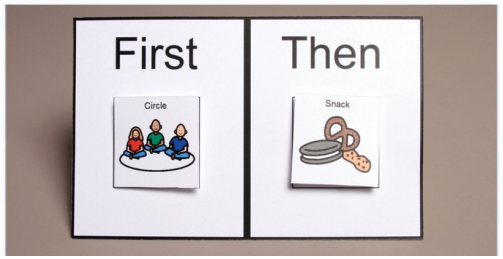
- Autism
- ADHD
- Print disabilities (e.g., dyslexia)
- Sensory needs
- Specific learning disability (SLD)
- Intellectual and developmental disabilities (IDD)

Visual Supports

Visual supports are any visuals (pictures, photographs, objects, words) used to support the student.

Examples include **visual schedules, timers, task breakdowns, feelings charts, visual scene displays (VSDs), or first/then boards.**

Visual supports are often used in combination with AAC systems.



Top to bottom: Feelings chart, first-then chart, **Time Time Visual Scheduler**

Visual Supports

Visual Schedule

Visual Scene Display (VSD)

GoTalk Connect (available soon) is an AAC device that can also be used as a VSD.

Text-to-Speech Software

Reads aloud selected text, allowing students with visual impairments to hear and engage with written material

Ideal for students with mild vision impairment, dyslexia, or who prefer auditory learning.

- TTS Apps with Optical Character Recognition (OCR): **Natural Reader, Voice Dream Reader, ClaroPDF Pro, Claro ScanPen, VD Scan**
- TTS Apps without OCR (only reads text already in a digital format): **Dolphin EasyReader, Predictable, Google Text-to-Speech, Microsoft Narrator,** or Apple's built-in **Spoken Content**

NaturalReader

Optical Character Recognition

Handheld OCR devices scan printed text and read it aloud.

- **C-Pen Reader Pen, C-Pen Exam Reader Pen,** Echo Smartpen
- Drag pen along text like a highlighter, and the pen will read the text aloud.
  - **Features:** Dictionary, Translator, Recording, Practice, Exam Mode

C-Pen Reader 3

AT for Vision

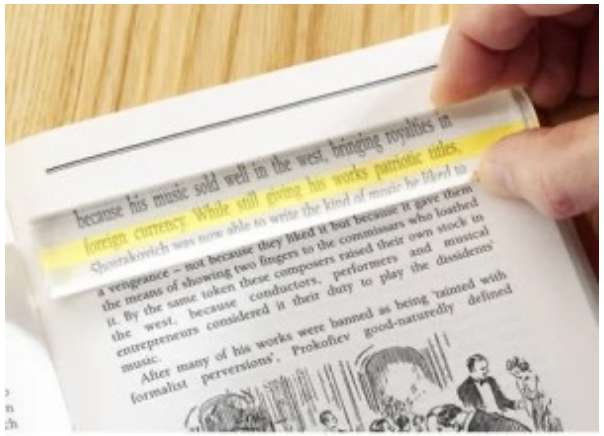
Target population examples:

- Blind or visually impaired (VI)

Screen Readers

- Converts ***all*** on-screen text or elements into speech by reading and interpreting the entire user interface (e.g., menus, links, buttons)
- Ideal for students with very limited to no functional vision
  - **NVDA** (NonVisual Desktop Access): A free, open-source screen reader for Windows
  - **VoiceOver**: A screen reader built into Apple devices

Magnifiers



- Mainly used by students with low vision, but can support blind students in certain circumstances, especially if they have partial vision or use them for specific tasks (i.e., reading large print)
- **Bar Magnifiers**
- **Portable Magnifiers:**
  - **Jupiter Portable Magnifier**
  - **Ruby 7 HD** – Handheld Video Magnifier
  - **E-Bot**

Top: **Bar Magnifier**
Bottom: **Jupiter** and **Ruby 7 HD**

Tactile Graphics

Tactile graphics allow students with VI to access visual information such as maps, charts, and diagrams through touch.

- **Tactile Image Enhancer** (top)
- **Tactile Symbol Communicator** (middle)
- **Tangible Object Cards** with **ProxPad** (bottom)

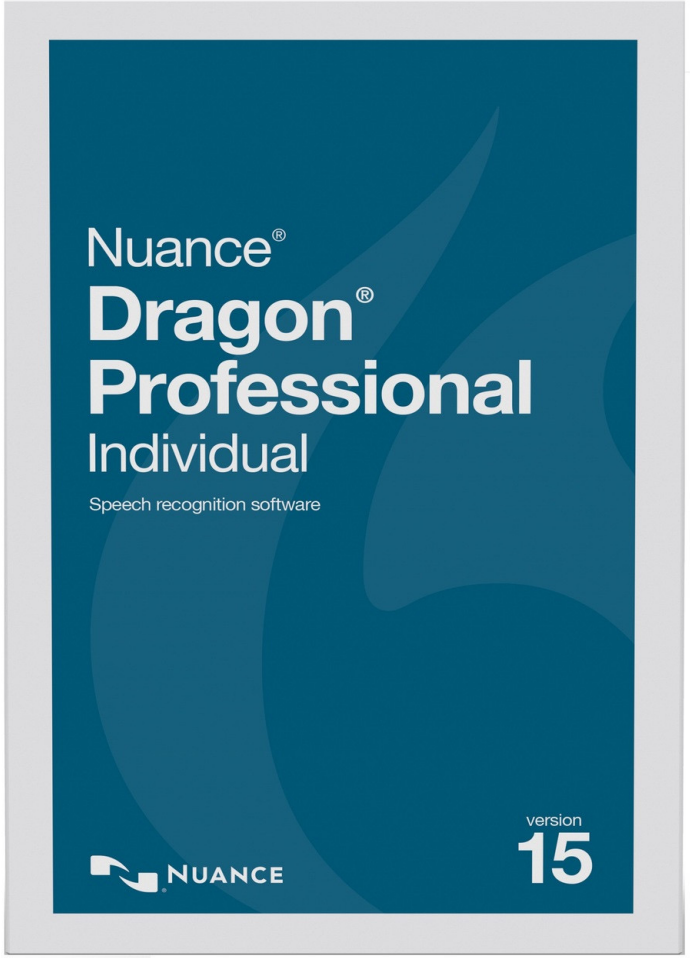
Speech-to-Text Software

Speech recognition software allows students to input text and commands by speaking rather than typing, which is very beneficial for students with limited to no functional vision.

Dragon NaturallySpeaking

- Transcribes speech into text and allows voice commands for controlling a computer

Most computers, tablets, and smartphones include built-in tools for speech-to-text transcription, such as **Google Voice Typing** and **Apple Dictation.**



Audiobooks

- **Bookshare**: A free online library offering accessible books for students with documented disabilities
- **Learning Ally**: A nonprofit that provides human-narrated audiobooks to students with print disabilities, including blindness
- **Epic!**: An iOS app that is a digital library for kids with a collection of Read-to-Me and audiobooks

Braille Displays

- Braille technology provides tactile access to digital text, allowing students to read and interact with written information using braille
- Show braille characters based on digital content

  Example: **Brailliant BI 40** (pictured top right)

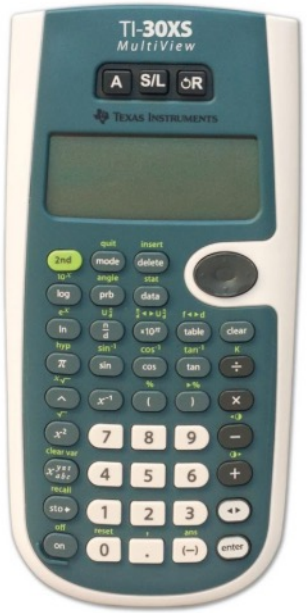
  Example: **Mantis Q40** (pictured bottom right)

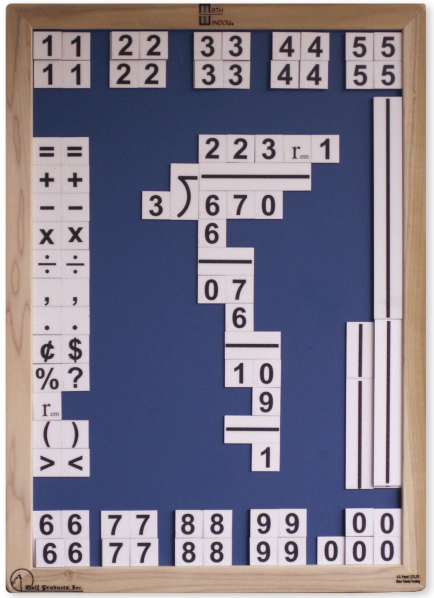
Braille Keyboards

- **Braille notetakers** combine braille input and output, which allows students to read and write in Braille
  - **BrailleSense Polaris** (pictured top right)
- **Braille keyboards** allow students to type or operate devices using Braille
  - **Hable One** (pictured bottom right): Designed specifically to operate smartphones and tablets. Send messages, write emails, and browse the web using Braille taps.

Math Tools

- Talking calculators read aloud mathematical equations and results (physical and app-based)
- **Braille Math Window**
- **Basic Math Kit** provides opportunities to learn
  addition, subtraction, multiplication, divis ion, fractions, and decimals on a moveable Braille teaching system





Left: **Orion TI-30XS Talking Scientific Calculator**
Right: **Basic Math Kit**

Mobile Devices / Apps

Smartphones and tablets have a variety of built-in accessibility features that can assist visually impaired students with everyday tasks and learning.

- **Read&Write:** Offers text-to-speech, visual highlighting, and word prediction
- **Seeing AI**: An AI-based app that narrates the world around the user, identifying objects, text, and people
- **Claro MagX:** A free iOS app with a high-definition magnifier
- **GoTap Braille App and Kit:** iOS app designed to teach and reinforce braille that comes with a kit of overlays, templates, and manipulatives

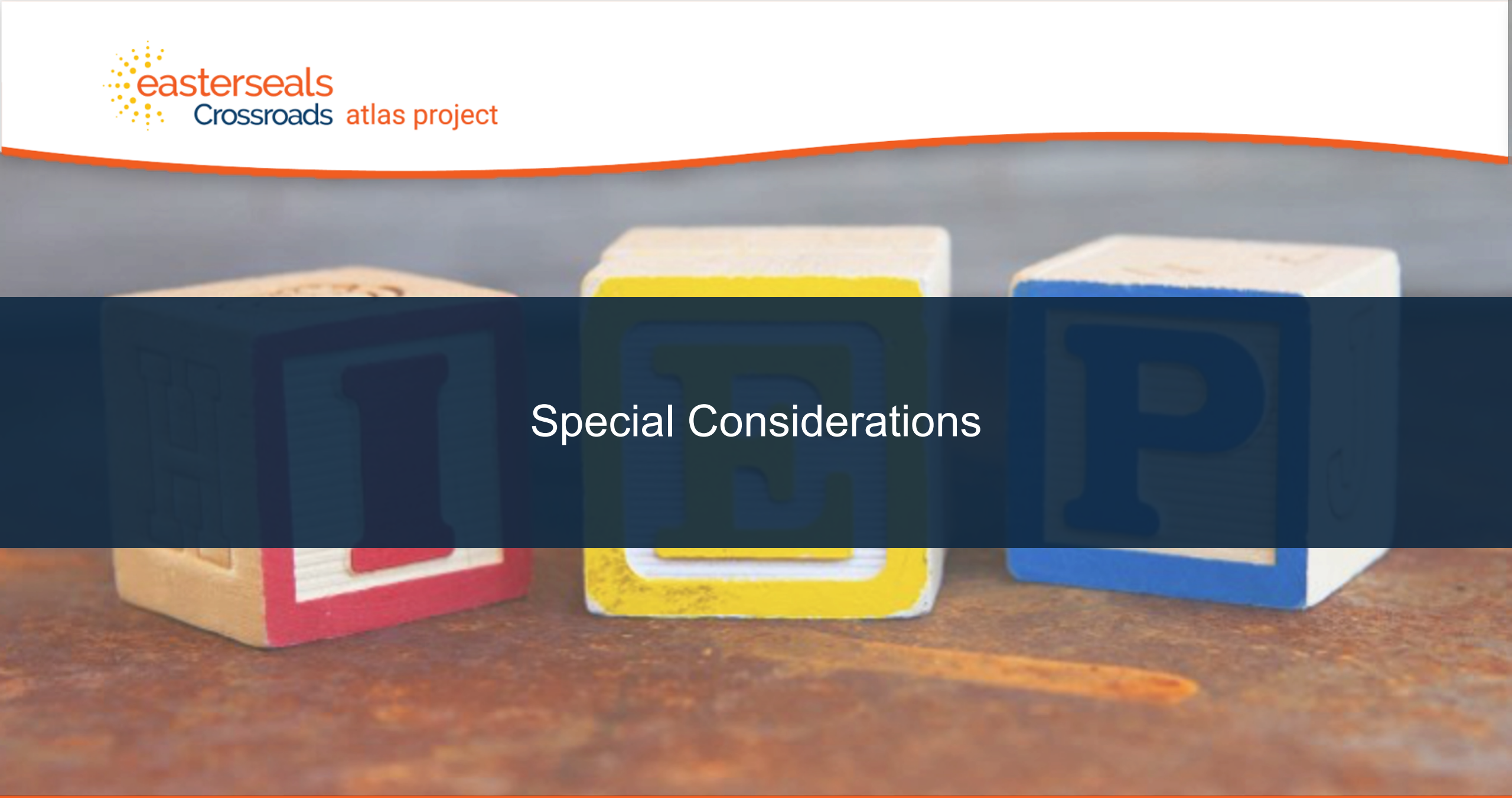
Low-Vision Recreation

- Recreational equipment that makes noises (e.g., beeping) can make activities more accessible for blind/low-vision students

Left to Right**: Beeping Foam Disk, Bell Basketball, Bell Football**

Miscellaneous Assistive Technology for VI Students

- **Braille Label Maker** (pictured below)
- **Braille learning devices** (pictured right)
  - **Taptilo Smart Braille Learning Device**



Special Considerations

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AT for Autism

Students with autism may need a combination of supports for speech communication, sensory, learning, and more (such as executive function).

Left to right: **GoTalk Connect** (coming soon), **Wipe Clean Weighted Lap Pads, Time Timer Visual Scheduler**

AT for Multiple Disabilities

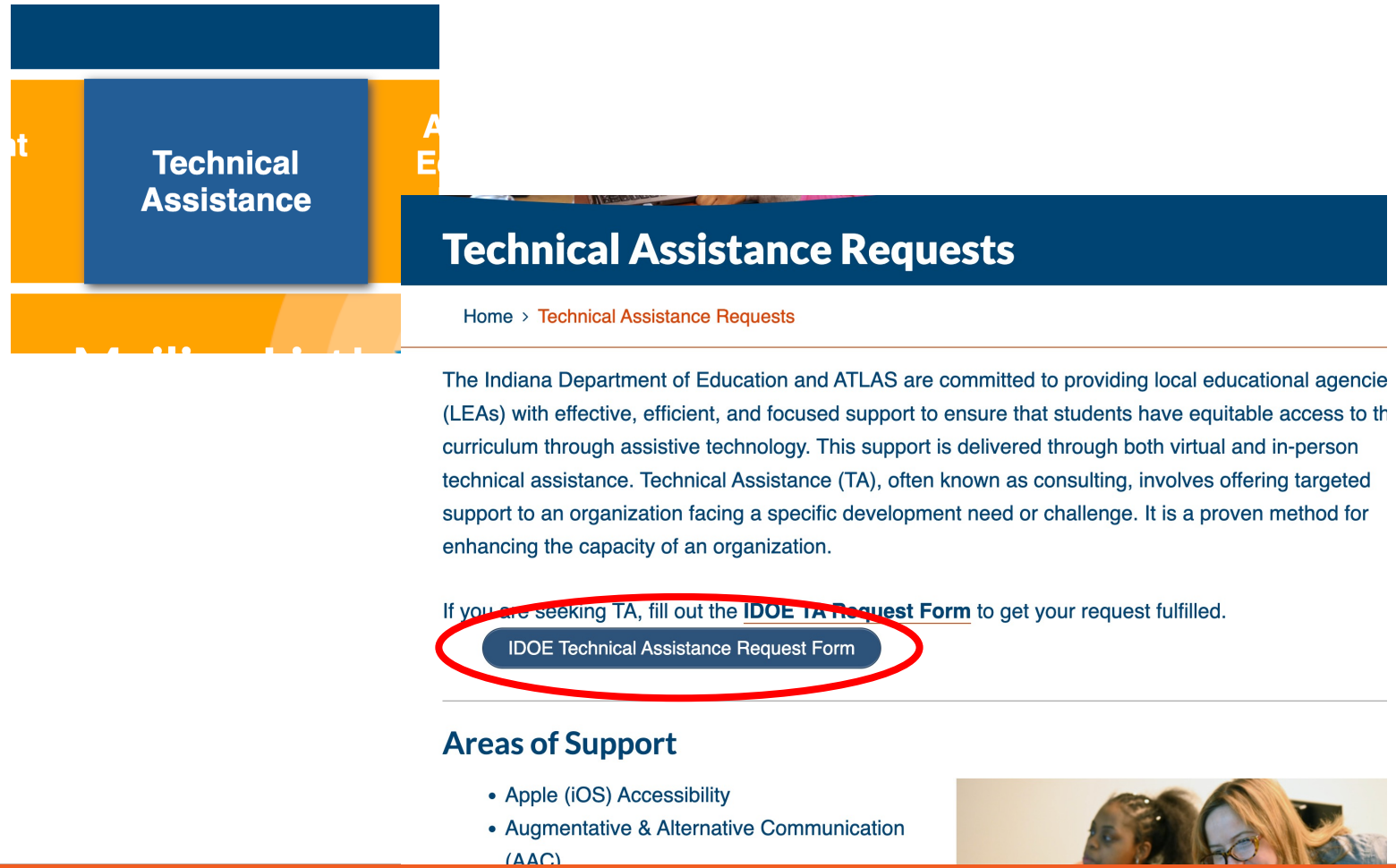
Students with multiple disabilities can especially benefit from assistive technology, but the AT may need some modifications in order to best suit the individual.

Consult an AT Specialist for assistance modifying AT and integrating multiple categories of AT.

Closing Thoughts

AT is a broad classification of tools and strategies, and there are so many more than what we covered today.

To learn more about how AT can enhance your classroom and assist your students, contact us using the **TA Request Form** on our website: k12atlas.eastersealstech.com



tinyurl.com/atlas-eval

Today's date: June 26, 2025

Title: AT in the Classroom

Facilitator: Raine Sims

Thank you!

ATLAS Project
Training/Workshop Evaluation

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