Assistive Technology: What is It and Who Does It Benefit?

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with contributions from the Tools for Life Team
www.gatfl.org
Welcome to the Assistive Technology Revolution!

The world around us is evolving at an astounding rate. Assistive Technology (AT) developments have been foundational in this evolution and a catalyst for producing positive life-changing results for individuals with disabilities.

This session will take a closer look at:

- AMAC | Tools for Life – AT Act Program
- Understanding Assistive Technology
- Defining “Low/Light Tech” to “Mid/High Tech Solutions”
- where we are and perhaps where we are going.

...all in about 60 minutes!

For Handouts: http://www.gatfl.gatech.edu/tflwiki
AMAC Accessibility is a social change organization on a mission to create affordable services for governmental, private, and non-profit organizations working with individuals with disabilities. Services include E-text, braille, captioning, assistive technology, office management software, and consulting.
AMAC creates practical solutions that work, with a focus on utility, ease of use, and high quality.

- **Accessibility Consulting** focuses on organizational accessibility needs with evaluation, technical assistance, customer support, and website accessibility solutions.
- **Braille Services** produces customized projects from both print materials and electronic text including partial books and chapters or graphics only using cutting-edge technology.
- **Captioning Services** makes classrooms, meetings, labs and other audio environments fully accessible for deaf or hard-of-hearing.
- **Professional E-Text Producers** provide high-quality e-text in many formats such as PDF, DOC, DAISY, and HTML.
- **Certified Assistive Technology team** provides on-site and remote assessments, demonstrations, training and technical assistance for education, work, and daily living environments.

For more information, please visit our website at [www.amacusg.org](http://www.amacusg.org)
We’re here to help Georgians with disabilities gain access to and acquisition of assistive technology devices and assistive technology services so they can live, learn, work, and play independently in the communities of their choice.
Tools for Life Website

Welcome to Tools for Life

Tools for Life, Georgia’s Assistive Technology Act Program, is dedicated to increasing access to and acquisition of assistive technology (AT) devices and services for Georgians of all ages and disabilities so they can live, learn, work and play independently and with greater freedom in communities of their choice.

Tools for Life and the TFL Network work collaboratively together to accomplish our mission through:

- **Hands-On Demonstrations**
- **Webinars**
  - May 28: Georgia’s Leadership Model for Increasing Accessible ICT in State Government
  - June 25: Learn More and Do More: Exploring Accessibility and Apps for Android
  - July 30: Position for Work: A Closer Look at Workplace Accommodations & Assessments
- **AT Online Exchange**
- **Tools for Life APPFINDER**
  - gTRADE
The TFL Network is Growing!
What is Assistive Technology?

• Assistive Technology (AT) is any item or piece of equipment that is used to increase, maintain or improve the functional capabilities of individuals with disabilities in all aspects of life, including at school, at work, at home and in the community.

• Assistive Technology ranges from no/low/light tech to high tech devices or equipment.
Get to Know Your AT Act Program

http://resnaprojects.org/
Why Assistive Technology?

• For a person without a disability, assistive technology makes life easier.
• For a person with a disability, assistive technology makes life possible.

Tip: USE AT! I have yet to meet a successful student with disabilities who doesn’t use any AT.
Human Activity Technology (HAAT) Model

- **Human**: represents the skills and abilities of the person with a disability
- **Activity**: a set of tasks to be performed by the person with a disability
- **Context**: the setting or social, cultural and physical contexts that surround the environment in which the activity must be completed
- **Assistive Technology**: devices or strategies used to bridge the gap between the person’s abilities and the demands of the environment

Developed by Cook & Hussey
The SETT Framework

S = Student/Skills
E = Environment
T = Tasks
T = Tools

Adapted from Joy Zabala  www.joyzabala.com
Assistive Technology is a continuum of tools, strategies, and services that match a person’s needs, abilities, and tasks.

**Low/No-tech**
- pencil grip
- adapted books
- slant board
- highlighters, tape
- magnifiers
- color coding
- read to out loud
- picture schedule
- strategies for memory
- colored transparencies
- Proof readers
- note taker

**Mid-Tech**
- word prediction
- text to speech
- speech to text
- spell checkers
- talking calculators
- digital recorders
- organizers
- e-books
- adapted keyboard
- adapted mouse
- adapted toys
- CCTV
- apps under $100

**High-Tech**
- computer/laptops
- tablets/phablets
- smartphones,
- smart pens
- OCR scanner/software
- magnification software
- speech output devices
- switch, joystick access
- scanning access
- voice recognition
- environmental control devices
- apps over $100
Considering No/Low Tech to High Tech
Low Tech AT Solutions
Low Tech AT Solutions for Writing

• Built-in pen and pencil grips
  – Variety
  – Can build you own with a tennis ball or ping-pong ball
• Wide barrel pens and pencils
  – Makes it easier for some people to write due to their contoured shape.
  – There is more surface area to grip which makes it easier to write.
Emerging Technologies
Microsoft Surface Pro and Surface Book

- Windows 10
  - New and improved Internet Explorer
    - On-screen writing and highlighting features
  - Moveable tiles
    - Start Menu can be personally organized
  - Built-in accessibility
    - Speech-to-text
    - Narrator
    - Magnifier
    - High contrast
- Slim and has a USB port
- This pressure sensitive cover that doubles as a keyboard
Microsoft OneNote

- Crosses all platforms
- Type, write, or draw with the free form feel of pen and paper
  - Use stylus or finger
- Search and clip from the web to picture ideas
- Brings students together in a collaborative space or can give individual support in private notebooks
# OneNote Learning Tools

<table>
<thead>
<tr>
<th>Feature</th>
<th>Proven Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced dictation</td>
<td>Improves authoring text</td>
</tr>
<tr>
<td>Focus mode</td>
<td>Sustains attention and improves reading speed</td>
</tr>
<tr>
<td>Immersive reading</td>
<td>Improves comprehension and sustains attention</td>
</tr>
<tr>
<td>Font spacing and short lines</td>
<td>Improve reading speed by addressing &quot;visual crowding&quot;</td>
</tr>
<tr>
<td>Parts of speech</td>
<td>Supports instruction and improves writing quality</td>
</tr>
<tr>
<td>Syllabification</td>
<td>Improves word recognition</td>
</tr>
<tr>
<td>Comprehension mode</td>
<td>Improves comprehension by an average of 10%</td>
</tr>
</tbody>
</table>
The study of Earth’s landforms is called physical geography. The seasons, the atmosphere and all the natural processes of Earth affect where people are able to live. Landforms can be mountains and valleys. They can also be glaciers, lakes or rivers. Landforms are sometimes called physical features. Geography is one of a combination of factors that people use to decide where they want to live.
Office Lens

• Free app
• Convert images to PDF, Word and PowerPoint files
• Save images to OneNote or OneDrive
  – Use immersive reader
Snip

- Free app through Microsoft Store for web browser
- Click and drag to capture any window or area of your screen
- Also can make notes or draw on your “snip”
- Send your “snip” as a URL or save it
Wearable Technology
CCS Wearables Forecast

CCS Insight Global Wearables Forecast, 2016-2020

Volume

- Fitness, activity & sports trackers: 14 million (61%
- Wearable cameras: 15 million (33%
- Virtual & augmented reality headsets: 2 million (7%
- Smartwatches & smartphone companions: 3 million (11%

Value

- 2016: $14.0 billion

Device sales in 2020

- Eyewear: 97 million
- Wristbands: 164 million
- Tokens, clip-ons & jewellery: 4 million
- Watches: 110 million
- Hearables: 9 million
- Wearable cameras: 25 million
- Other: 2 million

February 2016

info@ccsinsight.com / @ccsinsight
Octopus Watch

- Indiegogo funded July 2016
- Icon based watch designed to teach kids (3+) the concept of time
- $69

**WATCH**
It's a watch. It gives the time with icons, making it the first clock that young kids can actually read and understand. It links time to events.

**SCHEDULER**
It's a scheduler for children that fosters responsibility, independence and self-esteem. Parents can program reminders from their smartphone that pop up on the kid's watch.

**ASSISTANT**
It's an assistant that helps parents prioritize expectations and stay consistent with daily routines. It gives tips and personal notes.
GlassOuse

• Helps people control electronics without using their hands.

• Based on your head movements, it moves the cursor onscreen. You bite on a blue extension to click, and it can go a week without charging.”

• [https://vimeo.com/158593763](https://vimeo.com/158593763)
Lechal

- Haptic Footwear
- Uses GPS to let you know where you are
- Connects with app
- www.lechal.com
QuietOn

- Indiegogo fully funded March 2016
- Wireless noise reduction; reduces noise to create silence
- $160
Vibeat

- Device to help people who are deaf connect to music.
- Connects to the music source via Bluetooth.
- Internal motors within the wearables react to different frequencies to make the devices vibrate at different rates.
Mental Health
Breathe on Apple Watch

• The Breathe app guides you through a series of deep breaths, and it will remind you to take time to breathe every day.

• Choose how long you want to breathe, then let the animation and gentle taps help you focus.
Reveal

• Measures and tracks anxiety to help you better understand behavior and prevent meltdowns
Vidget Chair

- Do you need stop wiggling or fidgeting in your chair and sit still? With the this, you don't have to! Plus, it's actually better for you.
- Being able to fidget in a classroom improves focus, inspires creativity, and promotes calmness.
- It creates a healthier learning environment by providing a safe and quiet way to release some of the endless energy kids have.
- Inspires kids to move naturally and celebrates imaginative play while learning!
Fidget Cube

- Kickstarter campaign
- Available February 2017
- Created by Antsy Lab
- $22
Cognitive Help
Amazon Echo

- Set reminders, timers, alarms
- Assist with Spelling, Math, vocabulary, language/translations
- Play trivia games for learning
- Reduce anxieties with music
- Full-sized Echo $179.99
- Echo Dot $49.99
Sonocent Recorder

- Capture high-quality recordings and annotate in real-time using colour markers, photos and text notes
- Take an accurate record of a meeting, lecture or class without having to write anything down
- Splits your recording up into phrases which you can highlight, edit and delete as you record
- It’s FREE!!
Equil Smartpen 2

• Indiegogo Funded
• Real ink; real paper; digitized
• $119; shipping in early February 2017
N2 Neo Smartpen

- Kickstarter funded
- NeoLab created smart pen that writes on paper and mirrors information on smart devices (iOS and Android)
- $159 on Amazon
Digit Widget

• A tactile and exploratory way to learn about numbers, addition, and so much more!
• Through imaginative play, a child begins building the foundation for future STEM skills and has a lot of fun in the process.
3D Printers and Virtual Reality
Tiko 3D Printer

- Kickstarter Funded
- Accepting pre-orders shipping in Spring
- Non-proprietary filament
- Wifi connectivity
- $199
Virtual and Augmented Reality

- HoloLens
- A new collaboration between Pearson and Microsoft is using a self-contained holographic computer to develop “mixed reality” learning experiences for students

Apps
TFL AppFinder

Search by:

✔ App Name
✔ Categories

– Book
– Education
– Environmental Adaptations
– Hearing
– Cognition, Learning, Developmental
– Navigation
– Personal Care and Safety
– Productivity
– Communication
– Therapeutic Aids
– Vision
IFTTT
(If This, Then That)

• Free web-based service that allows users to create chains of simple conditional statements—“Applets”
• Trigger-based on changes to other web services
  – Gmail
  – Facebook
  – Pinterest
  – Instagram
NoteTalker

- Voice Recorder App
- Allows for Audio Bookmarks
- Attach picture within audio
- Edit notes (separate from app)
  - Add, share, edit, attach
- PowerPoint
- Graphic Equalizer
- $6.99 for app
- $105.43 for Editor
Voice Dream Reader

- Text-to-Speech
- Highlights as it reads
- Import
  - Bookshare
  - Dropbox
  - Gutenburg
  - Word Doc
  - PDF
- Buy different voices
- Change speed
- Download for later reading
- $14.99 for iOS
- $9.99 for Android
BARD Mobile

- Access directly to the National Library Service for the Blind and Physically Handicapped (NLS)
- Must be registered
- Can use with Braille display
- Free for iOS and Android
- [www.loc.gov/nls/find.html](http://www.loc.gov/nls/find.html)
• Scan documents or handwritten notes
• Email the scans as JPEG or PDF
• Free for iOS and Android
• Genius Scan Plus ($2.99)
  – allows upload to Dropbox, Skydrive or Evernote
• World's largest community-based traffic and navigation app.
• Share real-time traffic and road info to save time, gas money, and improve daily commuting for all
• Free on iOS and Android
Breathe2Relax

• Portable stress management tool
• Detailed information on the effects of stress on the body
• Instructions and practice exercises to learn the stress management skill called diaphragmatic breathing
• Free on iOS and Android
Key Ring

- For loyalty cards and savings while shopping
- Plan, save, and organize by carrying your cards, stores’ weekly ads, coupons, and your shopping lists
- Free on iOS and Android
Libby

• A new app to discover and enjoy thousands of eBooks and audiobooks from your public library
• Designed to get people reading as quickly and seamlessly as possible
• Just one tap away from unlocking the power of the written word from the public library
• All you need is a library card to get started
• It’s FREE!
Calculators

• Talking calculator app on iPhone and iPad.
• A comprehensively featured calculator has become a favorite among adults and primary schools around the world
• Wide range of uses
  – Large colorful buttons
  – Optional high contrast
  – Full VoiceOver support
  – Use speech for answers, button names and formulas
• Creator Adam Croser
  – Has created many different talking calculator apps.
AVA

• Uses microphone to hear and shows word by word what is said
• Instant captions
• Basic Plan – Free for 5hr/month
• $29.99
Questions?
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