Assistive Technology

Georgia Department of Education
Special Education Services and Supports
Georgia Project for Assistive Technology
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AT in the IEP

Assistive technology **must** be considered at **every** annual IEP meeting, **regardless** of the type or severity of the student’s disability.

In Other WORDS....
In Other WORDS....
Consider assistive technology for every student, every disability, every annual IEP, every time.*

*at a minimum
A Quick Reminder
An AT Device is:

- **Any Device** (off the shelf, customized or modified)
- **Used by a Person** with a disability
- **To Improve** functional capabilities
Again....

**ANYTHING** you can make, or buy, or change, that will help **ANY** student, with **ANY** disability, do **ANYTHING**.

*except surgically implantable device*
Assistive Technology
7 things Districts Should have in Place

Quality Indicators for Administrative Support of Assistive Technology Services
http://www.qiat.org/indicators.html
7 Things a district should have in PLACE

1. The education agency has **written procedural guidelines** that ensure equitable access to assistive technology devices and services for students with disabilities, if required for a free appropriate public education (FAPE).

2. The education agency **broadly disseminates clearly defined procedures** for accessing and providing assistive technology services and supports the implementation of those guidelines.

3. The education agency includes **appropriate assistive technology responsibilities in written descriptions of job requirements** for each position in which activities impact assistive technology services.

The QIAT Community (Revised, 2012). For additional information visit the QIAT website at http://www.qiat.org. Email joy@joyzabal.com for information on QIAT research.
7 Things a district should have in PLACE

4. The education agency employs personnel with the competencies needed to support quality assistive technology services within their primary areas of responsibility at all levels of the organization.

5. The education agency includes assistive technology in the technology planning and budgeting process.

6. The education agency provides access to on-going learning opportunities about assistive technology for staff, family, and students.

7. The education agency uses a systematic process to evaluate all components of the agency-wide assistive technology program.

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WHAT I need to have in PLACE!

Support from ADMINISTRATION is absolutely essential for quality Assistive Technology services to be developed and sustained.
WHY is this Important!

GRADUATION RATES
4 Year Cohort Graduation Rate - **SWD** and **All Students**

**3 Year Trend**

- **2013-2014**: SWD 36.5%, All Students 72.5%
- **2014-2015**: SWD 54.3%, All Students 78.5%
- **2015-2016**: SWD 56.4%, All Students 79.2%
SWD Annual Event Graduation - 3 Year Trend

- 2013-2014: 44.1%
- 2014-2015: 61.7%
- 2015-2016: 67.7%
A closer look – Assistive Technology

• According to the National Longitudinal Transition Study (NLTS2) - 2012:
  • Comparing postsecondary outcomes of students with high incidence disabilities who reported receiving assistive technology (AT) in high school to those who reported not receiving AT (study included 305,000+ students)
National DATA

- Assistive Technology use Nationally: All Disabilities

Special Education Students

On average ONLY 8.9% of students with IEP’s use Assistive Technology

www.NLTS2.org
Look a little further

- According to NLTS2
  - 99.8% of the students who received AT graduated while only 79.6% of those who did not receive AT graduated.
  - 80.9% of students who received AT attended a postsecondary institution while only 40.1% of students who did not receive AT attended a postsecondary institution.
High Incidence Disabilities and AT

- **Received Assistive Technology**
  - 99.8% Graduate
  - 80.9% Attend Post Secondary

- **DID NOT Receive Assistive Technology**
  - 79.6% Graduate
  - 40.1% Attend Post Secondary

Look a little further

- According to NLTS2

- 80% of those who received AT had a paying job after high school while only 50.8% of those who did not receive AT had a paying job.

Paying Job

- Received Assistive Technology: 80%
- DID NOT Receive Assistive Technology: 50.8%
ASSISTIVE TECHNOLOGY

Could this help?

Assistive Technology has TWO parts

Device

Service
How could Assistive Technology be used in school or post school?

- The law defines Assistive Technology device as:
  
a) 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.

b) The term does not include a medical device that is surgically implanted, or the replacement of such device.

(Authority 20 U.S.C. 1401(1))
How could this Help my Child -
In school or Post School

• Assistive technology **service** means any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device. The term includes—
  a) The **evaluation** of the needs of a child with a disability, including a functional evaluation of the child in the child's customary environment;
  b) Purchasing, leasing, or otherwise **providing** for the acquisition of assistive technology devices by children with disabilities;
  c) Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing assistive technology devices;

(Authority 20 U.S.C. 1401(2))
How could this Help my Child/Student

- In school or Post School

- Assistive technology service

  d) **Coordinating** and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs;

  e) **Training** or technical assistance **for a child** with a disability or, if appropriate, **that child's family**; and

  f) **Training** or technical assistance for **professionals** (including individuals providing education or rehabilitation services), employers, or other individuals who provide services to, employ, or are otherwise substantially involved in the major life functions of that child.

(Authority 20 U.S.C. 1401(2))
Assistive Technology: What It Is and How It Works

At a Glance

• Assistive technology can’t “cure” learning and attention issues, but it can help kids work around their challenges.
• Not all types of assistive technology are high-tech.
• You can discuss assistive technology with your child’s IEP team.

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What Assistive Technology Can DO

• It’s important to keep in mind that **AT’s role is to assist** your child/student’s learning. It doesn’t replace good teaching, but it can be used in addition to well-designed instruction. It can help your child/student be more self-confident and work more independently. It also can help your child:
  • Work more quickly and more accurately
  • Navigate classroom routines
  • Set and meet high goals

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Understood.org

https://www.understood.org/en/tools/through-your-childs-eyes
Specialized Format
Audio Files (Book) Services

Provide access to texts in audio format such as a CD or digital file

- Use requires eligibility with membership
  - Learning Ally
  - National Library Service

Graphic used with permission
Specialized Format
Electronic Books (eBooks)

Material is presented in primarily visual format

Chapter 1
Into the Primitive

"Old longings nomadic leap,
Chafing at custom's chain;
Again from its brumal sleep
Wakens the ferine strain."

Buck did not read the newspapers, or he would have known that trouble was brewing, not alone for himself, but for every tide-water dog, strong of muscle and with warm, long hair, from Puget Sound to San Diego. Because men, groping in the Arctic darkness, had found a yellow metal, and because steamship and transportation companies were booming the find, thousands of men were rushing into the Northland. These men wanted dogs, and the dogs they wanted were heavy dogs, with strong muscles by which to toil, and furry coats to protect them from the frost.

Buck lived at a big house in the sun-kissed Santa Clara Valley. Judge Miller's place, it was called. It stood back from the road, half hidden among the trees, through which glimpses could be caught of the wide cool verandas that ran around its four sides. The house was approached by graveled driveways which wound about through wide-spread lawn and under the interlacing boughs of
Specialized Format
Electronic Books (eBooks)

Devices used to read electronic books

• Some may have text to speech, book-marking, and annotation features, and the ability to make visual adjustment
Specialized Format
Electronic Books (eBooks) Services

Material is presented in primarily visual format

- Available free, with subscription / membership and commercially
  - Project Gutenberg
  - Bookshare
  - Commercial resources such as Amazon

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### The Difference between Audio Books and Text to Speech

<table>
<thead>
<tr>
<th><strong>Audiobook</strong></th>
<th><strong>Text-to-Speech (TTT)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What it is</strong></td>
<td><strong>An audio recording of a book being read aloud</strong></td>
</tr>
<tr>
<td><strong>How it works</strong></td>
<td><strong>A book is read aloud digitally and sent to the screen, read to the user by a computer or a human voice.</strong></td>
</tr>
<tr>
<td><strong>Ease of reading</strong></td>
<td><strong>Human voice</strong></td>
</tr>
<tr>
<td><strong>Ease of using</strong></td>
<td><strong>Computer-generated voice</strong></td>
</tr>
<tr>
<td><strong>Audibility</strong></td>
<td><strong>Audibility is not a concern as it is already a human voice.</strong></td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td><strong>Audibility is not a concern, but the user can skip, pause, and rewind.</strong></td>
</tr>
<tr>
<td><strong>Integration</strong></td>
<td><strong>Integration is typically not an issue.</strong></td>
</tr>
</tbody>
</table>

Reading Technology can... 

• Provide audio support to bypass decoding and fluency barriers 
• Could support comprehension 
  • Visual Support 
  • Note Taking, annotate on the document 
• Vocabulary Support 
  • Search word meaning 
  • Explore new words 
  • Provide auditory feedback
Examples of Frequently Used Tools
Reading Simulations

• Lets take a minute to Experience It
  • Start: www.Understood.org
  • Your Parent Toolkit
  • Through Your Child’s Eyes
  • Reading issues

• Lets take a minute to listen to a Student
  • Start: www.Understood.org
  • Your Parent Toolkit
  • Through Your Child’s Eyes
  • Children’s Stories
  • Pick a grade level (Preschool – Grade 2, Grades 3-6, Grades 7-12)
  • Listen to the child under “Reading issues”
Microsoft - One Note

https://www.youtube.com/watch?v=ud_U-7ENhY8
PDF Reading Software

Visual and auditory - provides speech access to unlocked PDFs, may highlight as it reads

- Adobe Reader
- Advanced Reading Aids
PDF Reading Software
Adobe Reader

Talking Calculators

A talking calculator is simply a calculator with a speech synthesizer. When number, symbol, or operation keys are pressed, they are vocalized/spoken by a built-in speech synthesizer. In this way, the user receives simultaneous auditory feedback for checking the accuracy of visual-motor operations. Once a calculation has been made, the number can be read back via the synthesizer. This feature enables the user to double-check the answers being transferred from calculator to paper.

It is important to note that the speed at which calculations are performed may be problematic, because it takes longer to have operations spoken than visually displayed. Second, some people may experience “stimulus overload” when having to contend with both visual and auditory feedback. As with all technologies, individual profiles and preferences will have to be considered.

Electronic Math Worksheets

Electronic math worksheets can help the user organize, align, and navigate through basic
Text Reading Software

Programs that can be used to read text on the computer display. They provide text-to-speech via speech synthesizer software.

• Natural Reader
• E-Text Reader
• Snap & Read
Text Reading Software

Programs that will display specially formatted text on the computer and/or mobile devices—free versions + paid premium versions

Text Reading Software
CaptiVoice

"Remember mumps," he warn'd her almost threateningly, and off he went again. "Mumps one pound, that is what I have put down, but I dare say it will be more like thirty shillings—don't speak—measles one five, German measles half a guinea, makes two fifteen six—don't waggle your finger—whooping-cough, say fifteen shillings—and so on it went, and it added up differently each time, but at last Wendy just got through, with mumps reduced to twelve six, and the two kinds of measles treated as one.

There was the same excitement over John, and Michael had even a narrower rouseak but both were kept, and soon, you might have seen the three of them going in a row to Miss Fulsom's Kindergarten school, accompanied by their nurse.

Mrs. Darling loved to have everything just so, and Mr. Darling had a passion for being exactly like his neighbours; so, of course, they had a nurse. As they were poor, owing to the amount of milk the children drank; this nurse was a prim Newfoundland dog, called Nana, who had belonged to no one in particular until the Darlings engaged her. She had always thought children important, however, and the Darlings had become acquainted with her in Kensington Gardens, where she spent most of her spare time peeping into perambulators, and was much hated by careless nurserymaids, whom she followed to their homes and complained of to their mistresses. She proved to be quite a treasure of a nurse. How thorough she was at bath-time, and up at any moment of the night if one of her charges made the slightest cry. Of course her kennel was in the nursery. She had a genius for knowing when a cough is a thing to have no patience with and when it needs stooping around your throat. She believed to her last day in old-fashioned remedies like rhubarb leaf, and made sounds of contempt over all this new-fangled talk she was sure, and so it was a happy experience to see her nursing the children to...
Where does all the Earth's water come from? Primordial Earth was an incandescent globe made of magma, but not all magmas contain water. Water set free by magma began to cool down the Earth's atmosphere, and eventually the environment became cool enough so water could stay on the surface as a liquid. Volcanic activity kept and still keeps introducing water into the atmosphere, thus increasing the surface-water and groundwater volume of the Earth.

A quick summary of the water cycle

Here is a quick summary of the water cycle. The links in this
Mobile Devices and Apps

- Kindle
- iPad
- Mini Tablets
- Tablets
  - Blio
  - E Books
  - Kindle
  - Story Creator
  - Talking Books
  - Prizm
  - Text grabbe
  - Scanning apps
  - Adobe Acrobat
  - PDF
  - Voice Dream Reader
  - Text to Speech
Student Success: Imagine the Possibilities

The Office of Special Education Programs (OSEP) requires that each State Educational Agency (SEA) develop a State Systemic Improvement Plan that includes a comprehensive, multi-year focus on improving results for Students with Disabilities. Each state must develop a plan that will outline the development of strategies to increase state capacity to structure and lead meaningful change in Local Educational Agencies (LEAs). While the primary focus of the plan is on improvement for Students with Disabilities, the State must also address in its SSIP how the State will use its general supervision systems to improve implementation of the requirements of individuals with Disabilities Education Act (IDEA). Georgia will implement a systemic plan, “Student Success,” in FY16 to improve graduation outcomes for Students with Disabilities.

Downloads:

- Improvement Plan/Graduation Rate District Metrics
Voice Dream Reader

“They have none of them much to recommend them,” replied he; “they are all silly and ignorant like other girls; but Lizzy has something more of quickness than her sisters.”

“Mr. Bennet, how can you abuse your own children in such a way? You take delight in vexing me. You have no compassion for my poor nerves.”

I have high respect for your nerves. They are my old friends. I have heard you mention them with consideration these last twenty years at least.”

“Ah, you do not know what I suffer.”
Claro Applications

- Claro ScanPen
- ClaroPDF Pro
- Claro Speak
Lets’ Take a Look at Writing Issues

Lets take a minute to Experience It
Start: www.Understood.org
Your Parent Toolkit
Through Your Child’s Eyes
Writing issues

• Lets take a minute to listen to a Student
  • Start: www.Understood.org
  • Your Parent Toolkit
  • Through Your Child’s Eyes
  • Children’s Stories
  • Pick a grade level (Preschool – Grade 2, Grades 3-6, Grades 7-12
  • Listen to the child under “Writing issues”
Types of Writing Difficulties

• Writing Process - A process that requires planning, organization, drafting, editing, and revising skills

  • Difficulties may include:
    • generating ideas
    • word retrieval difficulties
    • organizing thoughts into a coherent story
    • revising the story
Remediation of Deficit Areas

• Remediation tools
  • Strategies and skill based instruction to improve the skills in area of deficit
  • Assistance for finding remediation technology
    • Media Specialist
    • Technology Specialist
    • Content Specialist
    • Fellow Educators
    • Georgia Learning Resources System
Compensation of Deficit Areas

• Generally, assistive technology serves to compensate for deficit areas by enhancing access to and success in completing instructional tasks which require students to complete written tasks.

  • For example, a voice output word prediction program will compensate for difficulties in areas such as spelling, grammar, and vocabulary usage. It may not directly remediate writing difficulties.
Understood.org

https://www.understood.org/en/tools/through-your-childs-eyes
Printed Graphic Organizers

- Printed organizational support for students with difficulty brainstorming and organizing thoughts
  - Teacher made graphic organizers
  - Microsoft Word
  - Online printable graphic organizers
    - Freeology.com
**Recorders**

- Devices for recording notes and responses
  - Digital Recorder
  - LiveScribe Smartpen
Hand-held Word Identification Aid

Small portable spell checking devices and/or dictionaries which provide information about spelling and word usage/definitions

- Children’s Talking Dictionary with Spell Corrector
- Speaking Merriam Webster Dictionary with Thesaurus and Phonetic Spell Correction
Hand-held Scanners

- Devices for taking notes from print resources or digitizing handwritten notes
  - C-Pen Reader
Portable Word Processor

- Stand alone keyboards - small in size, easy to use, portable and durable
  - Fusion
  - and smaller, lighter Forte
Concept / Webbing Applications

- Organizational support for students with difficulty brainstorming and organizing thoughts
  - Inspiration
  - Kidspiration
  - Draft:Builder 7 (SOLO)
  - Webspiration Pro
  - Gliffy
Standard Word Processing Software

• Allows students to enter, edit and store text
  • Microsoft Word: a powerful standard word processor with built-in study support features
    • Visual accommodation - font, background, line spacing
    • Text-to-speech - WordTalk
    • Word Count
    • Highlight text and colored fonts
    • Outlining feature
    • Dictionary and Thesaurus
    • Comment
Standard Word Processing Software

- **Speak Text**
  - Quick Access toolbar to add “Speak” option
  - **WordTalk** – is an “ADD-INS”
Talking Word Processing Software

- Software with speech support
  - Write:OutLoud 6
  - Talking Word Processor
Word Prediction Software

- Software with spelling and grammar support
  - Co:Writer 6
  - Word Q
  - Read and Write GOLD
  - On Screen Keyboards
Mobile Devices and Apps

Audio Notes
Notability
Writing Wizard
Handwriting
PaperPort
Evernote
Notes
Dragon
Dictation
Speech
Recognition
Co:Writer
iReadWrite

Tablets
Notes – iOS 9

- New features in iOS 9
  - Formatting Options for Text
    - Title
    - Headings
    - Body
  - List Options
    - Bulleted Lists
    - Dashed Lists
    - Numbered Lists
  - Ability to Insert graphics
  - Ability to Free Hand Draw (on current devices)
    - Pencil
    - Pen
    - Marker
Notes – iOS 9

The New Features in Notes iOS 9

Formatting:
- Title
- Heading
- Body

Bulleted Lists:
- Bulleted lists
- Dashed lists
- Numbered lists

Check Lists
- Review science notes
- Finish math homework
MyScript Stylus

MyScript Stylus – Handwriting Keyboard
By MyScript
Open iTunes to buy and download apps.

Description
Designed for iPhone, iPad and iPod, MyScript Stylus provides a handwriting alternative to onscreen and physical keyboards. The auto scrolling input panel allows you to write using fingertip and stylus in any application including email, text documents, calendar, web browser, SMS, MMS, etc.

MyScript Web Site » MyScript Stylus – Handwriting Keyboard Support »

Screenshots

My Script
27 March 2015 17:16

My script
27 March 2015 17:20
MyScript Stylus

• Handwriting recognition keyboard
• handwriting is converted into digital text in real time.
• write using fingertip and stylus in any application including email, text documents, calendar, web browser, etc.
• write in cursive or print
• input panel allows you to correct and edit the content you have written
  • Create line breaks
  • Erase characters, words or sentences
  • Insert or remove space
  • Join words
  • Overwrite characters
MyScript Stylus
DocAS

- Typed and/or free hand notes
- Convert documents from camera/photo album into editable documents
- Access and share using favorite cloud storage services
- Import PDFs
- Share Notes and Documents
DocAS

You Can Sign a Document
Pages

- Word processor
- Split view on iPad
- Outlining template
- Create footnotes and endnotes
- Add images and video using the Media Browser
- Picture in Picture on iPad
- Share a link to work via Mail, Messages, Twitter, or Facebook
- Export documents in ePub, Microsoft Word, and PDF format
• Know your language focus
  • Consider multiple types of **vocab**
    • Quick words
    • Context based messages
    • Word lists
    • Keyboard
    • Core words Touch chat app
  • Include age appropriate vocabulary
  • Consider current communication skills
  • Allow for growth
• Create a positive communication atmosphere
  • Listener tips
    • Respond to all forms of communication
    • solve - find solutions to challenges
    • Provide support when needed