

Engaging and Including All Learners with Assistive Technology



Diana Petschauer, M.Ed., ATP
Assistive Technology for Education, LLC
Assistivetechnologyforeducation.com



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Diana Petschauer, M.Ed., ATP

- Founder: Assistive Technology for Education, LLC
- Nationally Certified Assistive Technology Professional, via RESNA (Consultations, Assessments, Training, PD Workshops, Webinars)
- NHAIM Service Provider (NH Accessible Instructional Materials) NH Dept. of Education
- NH Audio books Coordinator, NH Dept. of Education
- Previously the AT Specialist at UNH, Disability Services for Students
- Over 15 years in Special Education K-12 & Post-Secondary

AT-Leveling the Playing Field!

Assistive Technology is Supporting All Learners in the Classroom, Workplace & in the Community



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Free Resources in NH!

- NHAIM: NH Accessible Instructional Materials (digital, audio, large font, Braille, free Bookshare training).
- AIM in every state: <http://aim.cast.org/>
- NH Audiobooks (Free Read and Write Gold literacy software & training for schools)
- Free accessible materials, textbooks and more in audio/ digital, Braille for free. Also providing free AT such as refreshable Braille Displays and Tactile Graphics, as well as the training for refreshable braille displays, and iPad apps for literacy.

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AT Assessments- SETT framework

- SETT: Student, Environment, Task, Tool
- Created by Joy Zabala, education specialist
- https://docs.google.com/file/d/oB1mr2aSrKGaNMjNHUohWamxWSkk/edit?usp=drive_web

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AT Data Collection & Implementation

https://docs.google.com/file/d/oB1mr2aSrKGaNQVdyUU5mZHcoQUE/edit?usp=drive_web

AT assessment and use is an ongoing process, to be evaluated and re-assessed as student grows, progresses, digresses, shows proficiency or difficulty, and as technology improves.

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Refreshable Braille Displays

- Allow an Individual who is Blind to access all information on a computer or iPad via real-time refreshing Braille. Typically used in Conjunction with a screen reader such as JAWS or Voice Over.



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Refreshable Braille Displays



- Video Clips of APH refreshabraille 18 & iPad, iPod Touch, VoiceOver : [Clip 1](#)
- [Clip 2](#)
- [Clip 3](#)

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New Haptic Technology being Developed

- A Keyboard that raises from a flatscreen/ touch screen: [Video](#)
- Haptic Maps with iPhone: http://www.fastcodesign.com/1671924/iphone-maps-for-the-blind-using-haptic-tech?goback=.gde_4101656_member_217219891
- The iSense's unique light-sensitive film would consist of a grid of bubbles that reacts to varying levels of light, created by the iPad's screen. This would then create different patterns of small bumps, forming Braille characters on the film.



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First FDA Approved Retinal Prosthesis

- Argus II:
- <http://www.blindness.org/blog/w-an-fda-approved-retinal-pro-to-be/>
- Video: (Top 10 medical innovations 2014)
- <http://link.videoplatform.limelight.com/media/?mediaId=cff4cb60106f4f47845ae76822bd50c8&width=480&height=321&playerForm=Player>



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TouchScreen with Texture & 3D Tablets in Development/ Research

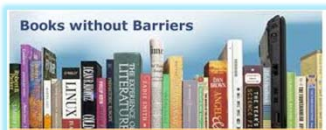
- Disney invents touch screen (tactile rendering of 3D features):
- <http://www.washingtonpost.com/blogs/the-switch/wp/2013/10/08/disney-invents-touchscreen-that-lets-you-feel-textures/>

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Bookshare



NH's Resource For Free Audio & Digital Books
for Students with Print Disabilities K-12 and College!



Accessible Books and Periodicals for Readers with Print Disabilities



Free
memberships
for qualified
U.S. students
and schools!

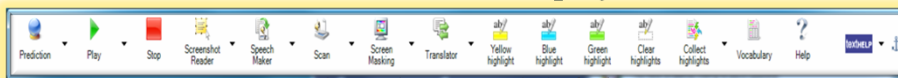


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Read & Write Gold: Scanning Texts



- Scan Textbook Pages and Handouts (Built-In OCR, Abbyy Fine Reader)
- Read with Text-to-Speech features and Highlighting
- Convert to MP3/ Audio
- ScreenReading & ScreenShot Reader
- Read scanned material with Screen Readers such as JAWS and NVDA
- Magnify Font, Change Font Colors
- Read with Apps on the iPad
- Read with Refreshable Braille Displays



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Free Google Apps & Downloads!

- VoiceNote (Voice Recognition)
- ChromeVis (Magnification)
- Gingersoft (Spelling & Grammar)
- Read and Write Gold Google Docs (Text to Speech & Study Tools)
- iSpeech (Free Text to Speech in Chrome Browser)
- Etype (Free Word Prediction)
- Natural Reader (Free Text-to-Speech)

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iOS Apps (iPad, iPhone, iPod Touch)

- Apps to support Reading, Writing, Math, and All other subjects of Learning. Complete Homework assignments with text to speech and voice recognition.
- Apps to support Independence in the Workplace and Community
- Apps for individuals who are Blind or Low Vision for Reading, writing, magnification, OCR (optical character recognition), navigation, product recognition, money identification and more.



Voice Recognition Improving!

- Dragon Naturally Speaking 12 –Efficient, Accurate, Working for Students who have Difficulty Speaking
- CP
- Apraxia
- Trainable
- Collects data
- Improves with Use
- Offers access to those who physically cannot access a keyboard or mouse



LiveScribe Echo SmartPen

- Record Lectures and Sync Audio!
- Sky WiFi Pen and Livescribe 3 (tablets)



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Eye – Gaze & Head Tracking

- To assist an individual who is non-verbal and/or has limited physical mobility to communicate and access the computer.



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Eye-Gaze

- Access to Communication, Education, Employment and the Community
- Tobii:
 - <http://www.tobii.com/en/assistive-technology/global/products/hardware/pceye/>
- Now available for the computer or a tablet

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AAC Augmentative and Alternative Communication

Encompasses the communication methods used to supplement or replace speech or writing for those with impairments in the production or comprehension of spoken or written language. AAC is used by those with a wide range of [speech and language impairments](#), including congenital impairments such as [cerebral palsy](#), [intellectual impairment](#) and [autism](#), and acquired conditions such as [amyotrophic lateral sclerosis](#) and [Parkinson's disease](#). AAC can be a permanent addition to a person's communication or a temporary aid.

- iPad with AAC Apps
- Dedicated Device



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Switch Access for Computer and iPad



Direct Connect & Bluetooth Options



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Environmental Control

- iPad Access: EvoAssist:
<http://assistive-technology.co.uk/downloads/videos>



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Hearing Amplification Systems and Apps; Deaf/ HOH individuals

FM Systems, Hearing Loops, Cynaps Connect

<http://www.hearingloop.org/>



<http://www.maxvirtual.com/cynaps-enhance.html>

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The Future of Assistive Technology and Accessibility

- GPII: <http://gpii.net/index.html>

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UpComing Trainings & Workshops!

- Check AT for Education [Website Calendar](#) for Upcoming trainings
- iPad Apps for Struggling Readers & Writers- Assistive Technology Workshop in December!



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