

Accommodations for Reading, Writing and Arithmetic

Disclosure Slide

- I have no Relevant Financial Relationships or Relevant Non-Financial Relationships to disclose associated with the subject matter of this presentation.
- I do not receive any money from any of the equipment, devices, apps or anything else mentioned in this presentation.
- This presentation and the solutions in it is merely informational and does not constitute a recommendation. What works for some will not work for all.

Agenda

- Quick intro of your speaker (me)
- Common impairments
- AT and Possible Accommodations for Reading
- AT and Possible Accommodations for Writing
- AT and Possible Accommodations for Arithmetic
- Demos of some of the solutions
- Questions
- Almost Friday!! YAY!!!



Your Presenter - Josh

- Manager of Clinical AT Team – the people who do job and school accommodations daily
- Former Job Coach
- Host of Assistive Technology Update
- Worked many jobs in the past, like seriously a LOT of jobs including admissions at a university.
- Proud father/stepfather of 4 ranging in age from 20 years to 8 months.



Common Intellectual or Cognitive Impairments

- Dyslexia
- Dysgraphia
- Dyscalculia
- Visual Processing Disorder
- Auditory Processing Disorder
- Articulation Disorder
- Expressive/Receptive Language Disorder
- Traumatic Brain Injury (TBI)
- Autism Spectrum Disorder (ASD)
- Specific Learning Disabilities
- Anxiety
- Depression
- Social Anxiety Disorder
- Schizophrenia
- Post Traumatic Stress Disorder (PTSD)
- Other mental health diagnoses
- Attention-Deficit/Hyperactivity Disorder (ADHD)
- Aphasia
- Dementia
- Down's Syndrome

More important than a diagnosis...

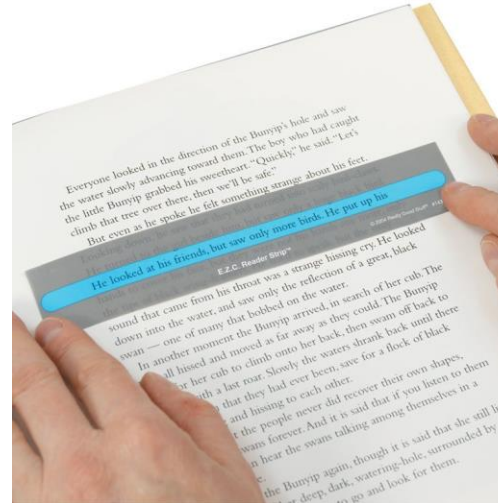
- **HOW** does the individual best learn?
 - Visual, auditory (aural), kinesthetic (physical), verbal, logical (mathematical), combination
 - Social or Solitary
- **WHAT** is missing?
 - Are we missing information?
 - Is the environment correct for their needs?
 - What can be adjusted or accommodated to maximize learning potential?
- **HOW** do we accommodate?
 - Specific needs for specific people require specific accommodations?
- **WHY** is Josh asking all these questions and can he just get on with the presentation already!?!

A background image of a Paralympic cyclist in a red and orange jersey, wearing a white helmet and sunglasses, celebrating with arms raised while riding a racing wheelchair on a track. An orange semi-transparent banner is overlaid across the middle of the image.

AT and Possible Accommodations Reading and Writing and Arithmetic

Reading – Low-Tech

- Low-Tech Reading Options
 - Large print
 - Different fonts
 - Dyslexia fonts – weighted
 - Colored overlays
 - Reading guides
 - Ruler or other device to focus reading
 - Having the document/information read to the individual
 - Does not really foster independence



Colored Overlays



A B C D E F G H I J K L M
 N O P Q R S T U V W X Y Z
 a b c d e f g h i j k l m
 n o p q r s t u v w x y z
 0 1 2 3 4 5 6 7 8 9 ! ? #

Reading – Chrome Extensions



- Dyslexia Reader Chrome
 - Changes text to make it easier to read (size, style, spacing)
- Helper Bird
 - Change text size and color, remove distractions, have information read, ruler for focus, dictionary
- Read Aloud
 - Reads information on web pages aloud to individual, puts in separate reading box
- Open Dyslexic
 - Changes all font to open dyslexic font
- Bee Reader
 - Changes color of font to draw the eye by line for easier reading
- Many more available and helpful to other disabilities and not just Dyslexia

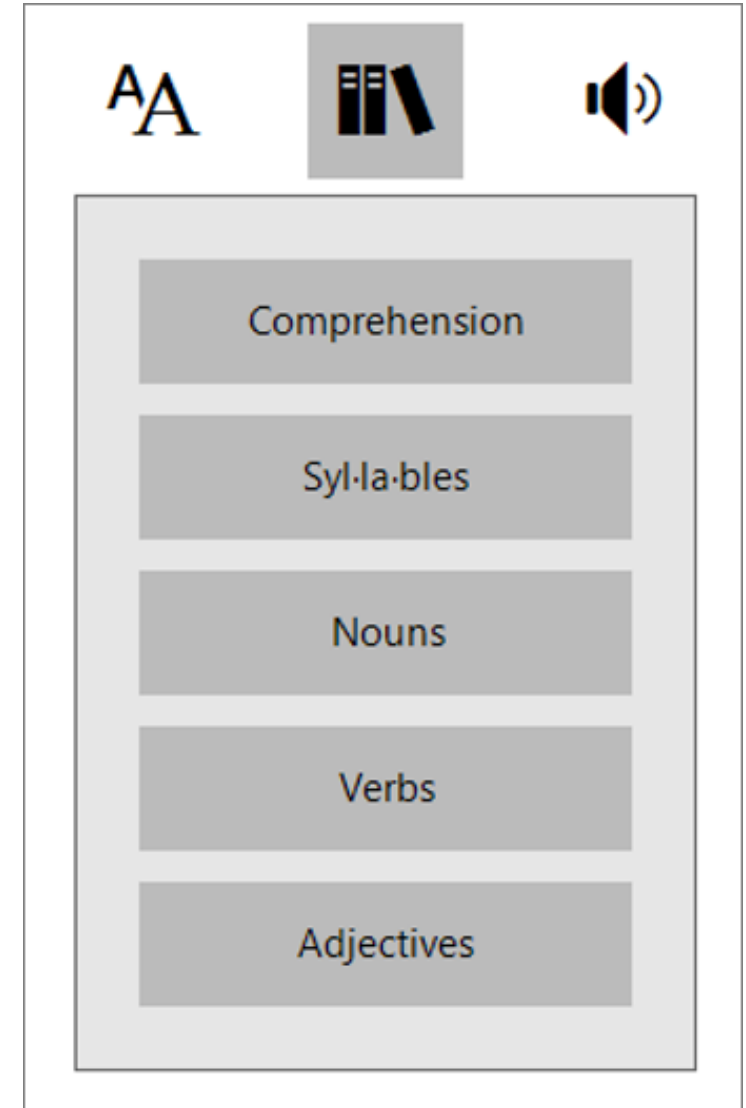
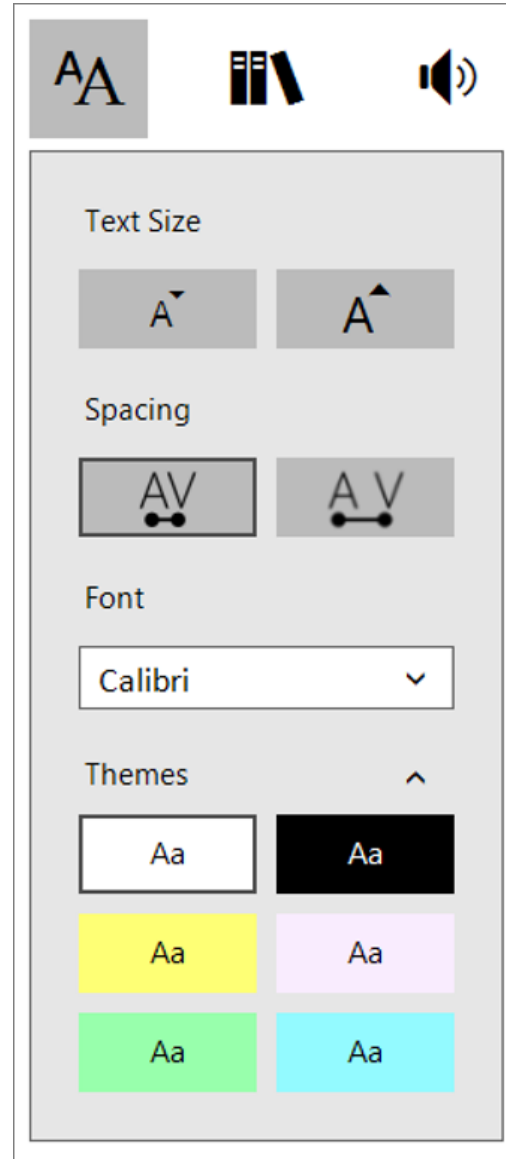
Reading - Software

- Kurzweil 3000, Read and Write Gold, Claro Read, Natural Reader
 - All the above programs offer OCR features that can read text to an individual
 - The text can be on the computer or scanned in from a paper document
 - Cannot read handwriting
 - Many offer other tools including:
 - Dictionary, pictures to represent words, thesaurus
 - Mind mapping and notetaking features
 - Writing tools
 - Highlighters and reading lines
 - The ability to manipulate and change text
 - Read along features
 - Multimodal learning



Reading - Software

- Microsoft Immersive Reader
 - Built into OneNote and Word
 - Allows for OCR, line spacing, font manipulation, syllable separation, identifying parts of speech and more



Reading – Other Assistance

- Rewordify
 - Free website that allows the user to input lines of text and have them simplified for greater understanding
- Smmry
 - Free website that allows the user to input whole articles or chunks of text and returns a summary of the information inputted



Reading - Software

- Depending on the need, some of the accommodations for individuals with vision can assist as well
 - A full screen reader, such as JAWS or NVDA, could offer far too much information and be more of a hinderance than a help
 - The built ins (Narrator, ChromeVox, VoiceOver) could assist in a pinch if no other reading software is available
 - Again, they will give more information than is needed
 - Magnification, color changes, larger text and on demand reading features could meet the need
 - Built-ins
 - ZoomText
 - May be better accommodations out there though

Reading – Tablet/Smartphone

- Built in reading feature
 - Android and Apple have a built in speak screen and speak selection feature to read information on the screen back to the individual
- Apps
 - Seeing AI, Google Lookout, Envision AI – Scan and Read apps
 - Geared towards blind and low vision individuals
 - KNFB Reader, ClaroPDF, VoiceDream Reader
 - Geared towards individuals with reading disabilities
 - These apps have different features and price points, but all allow the individual to capture text and have the information read back to them
 - A stand may be important to get good scans for OCR

Reading – Stand-Alone Devices

- C-Pen
 - Stand alone device that can read printed text, look up terms and store information
 - Used like a pen to scan across lines of text for quick reading
- OrCam Read
 - Full page scanning by holding small device above page(s)
 - Can read computer/tablet/phone screen
- Many stand-alone vision loss accommodations (CCTVs and OCR devices) could be used as well



Writing – Software

- WordQ
 - Simple to use writing and reading software that features word prediction, text to speech for proofreading, talk-to-type, topic research, abbreviation expansion and PDF access
 - Works in Word and other programs and online
- CoWriter
 - Chrome or Edge extension that features word prediction, flexible spelling, speech to text, topic dictionaries and text to speech
 - Works best in Google Docs and online formats (email, social media, etc.)
- Phrase Expander and Text Expander
 - Text expansion software for Windows and Mac – work in most programs on computer
- Work Prediction
 - Different programs (think of texting on your phone)

Writing – Software

- Dictation Software
 - Dictation software works great for individuals who have difficulty with typing, spelling or getting their thoughts out
 - Dictation cannot misspell words (mostly)
 - Helps to get thoughts out of your head
 - Gives a good place to start
 - Outlining, brainstorming
- Dragon Naturally Speaking
 - Learns from the user
 - Has an easier time with individuals who do not speak or annunciate perfectly
- Built-ins
 - Perhaps not as intuitive as Dragon, but still helpful



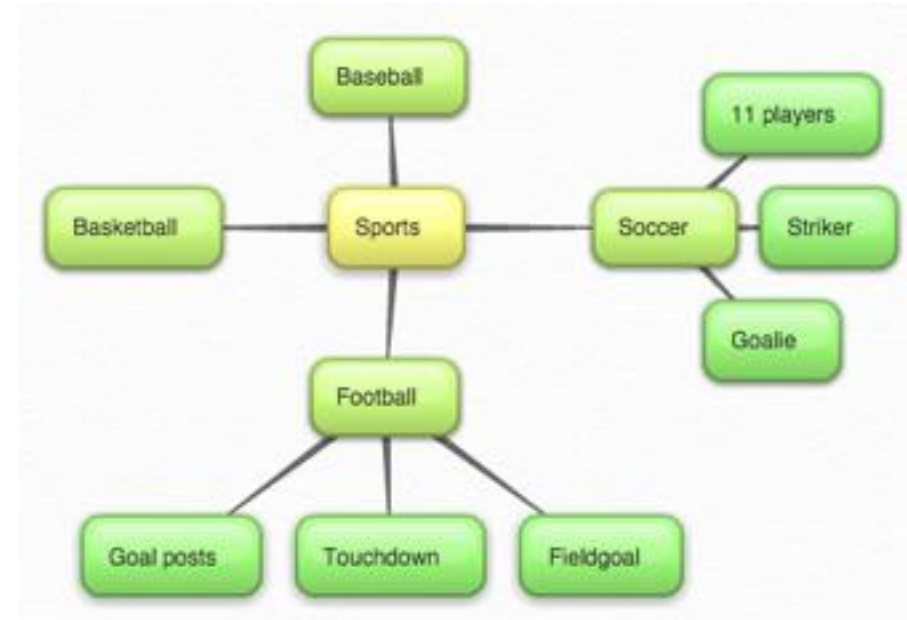
Writing – Software

- Proofreading
 - Text-to-Speech Software
 - For individuals with learning disabilities, and in all truth everyone, having information read back to them can assist with proofreading
 - Can use any of the software already mentioned
 - Some word processing software has this built it
 - Grammarly
 - Better grammar checks than built-in
 - Conciseness, punctuation, misspellings, imperfect grammar, and more
 - Plug-ins, online and paid versions available



Writing – Mindmapping

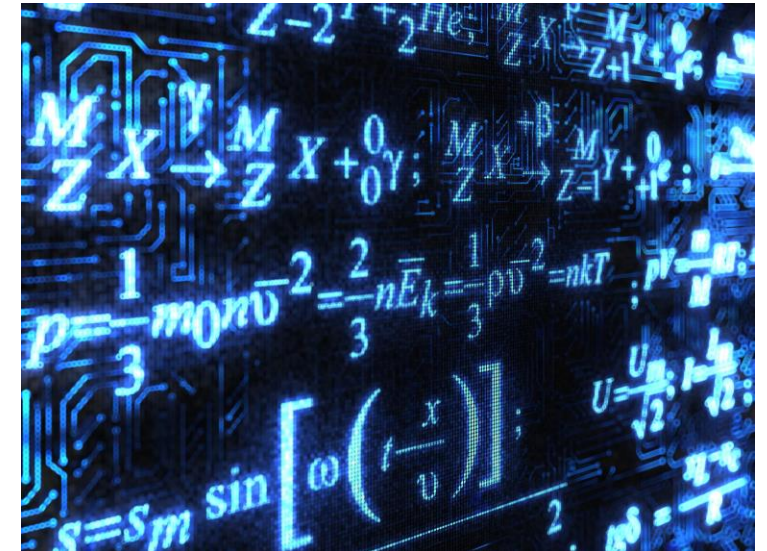
- Mindmapping and brainstorming are a great way to get ideas out of an individual's head and organized
 - This can be great writing tool and a great organizational tool
 - Different solutions available
 - Low-Tech
 - Pen and Paper
 - High-Tech
 - Mindmapping programs and software
 - Mindview
 - Coogler
 - MindNode
 - Other software and online tools



Brainstorming Tools

Math – Apps and Software

- Math can be an issue for a lot of students with and without a diagnosed disability
 - How can I remember all the steps?
 - What did the teacher say to do first?
 - Why in the heck to I care what X is!?
- There are apps and programs out there to assist
 - Mathway – online tool
 - Paid and free version available (subscription based)
 - PhotoMath – app
 - Free version will do most of what you need – subscription for even more assistance
 - Y-Homework
 - Uses credits to solve equations – unlimited is free with ads

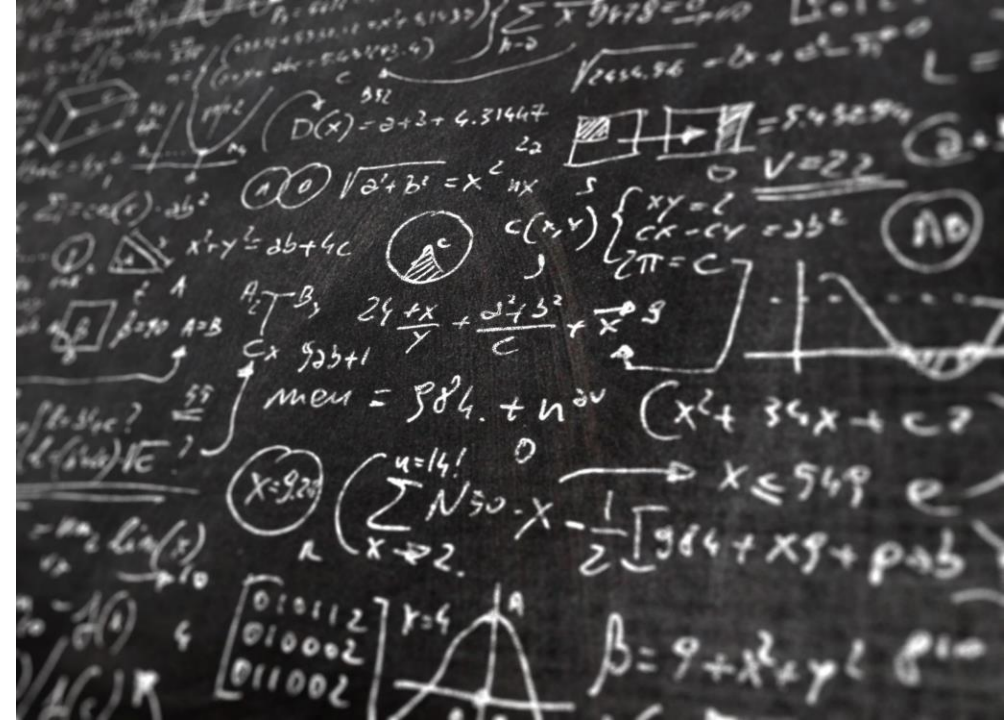


Other Learning Tools – Futuristic Stuff

- Augmented Reality
 - JigSpace and other apps
 - Allows you to see more complex things in AR to assist visual learners
- Virtual Reality
 - Can be used to train and learn in hard to replicate environments
- Robots
 - Telepresence robots allow interaction with peers from afar
 - Robot teachers for kids with Autism and other special social needs
- Different Remote Learning tools
 - Zoom, online whiteboards, choose-your-own-adventure style learning
 - 'Story Games'
- So many more....

Conclusion

- There are many tools out there to assist with learning.
 - Some are free, some are very expensive
 - If it is the one that works, it is invaluable!
- It is important to find the one (or many) that work for you.
- Work with disability services and others to find the right solution.
 - Borrow or try out solutions
 - See what accommodations are available through the school
 - Speak up and advocate
- Keep trying!!



The background of the slide is a dense field of 3D question marks. Most are dark grey, but one in the center-right is a bright orange, and another slightly below it is a yellow. An orange horizontal band is superimposed over the middle of the image.

Questions?

Thank you for attending

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