Getting to Know Tools for Life and AT for the Classroom

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With contributions from Liz Persaud & Ben Jacobs & Ben Satterfield

www.gatfl.org

For Handouts: http://www.gatfl.gatech.edu/tflwiki

www.amacusg.org

AT for Learning

Session Goals:

1. Promote full inclusion of all students in educational environments.
2. Increase participants skills and knowledge in assistive technology and ergonomics.
3. Provide resources for participants so they can educate others and create inclusive classrooms and educational settings.

AMAC

AMAC Accessibility is a social change organization on a mission to create affordable services for governmental, private and non-profits organization working with individuals with disabilities. Services include e-text, braille, captioning, assistive technology, office management software and consulting.

Accessibility Made Smart

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

Tools for Life Mission

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.

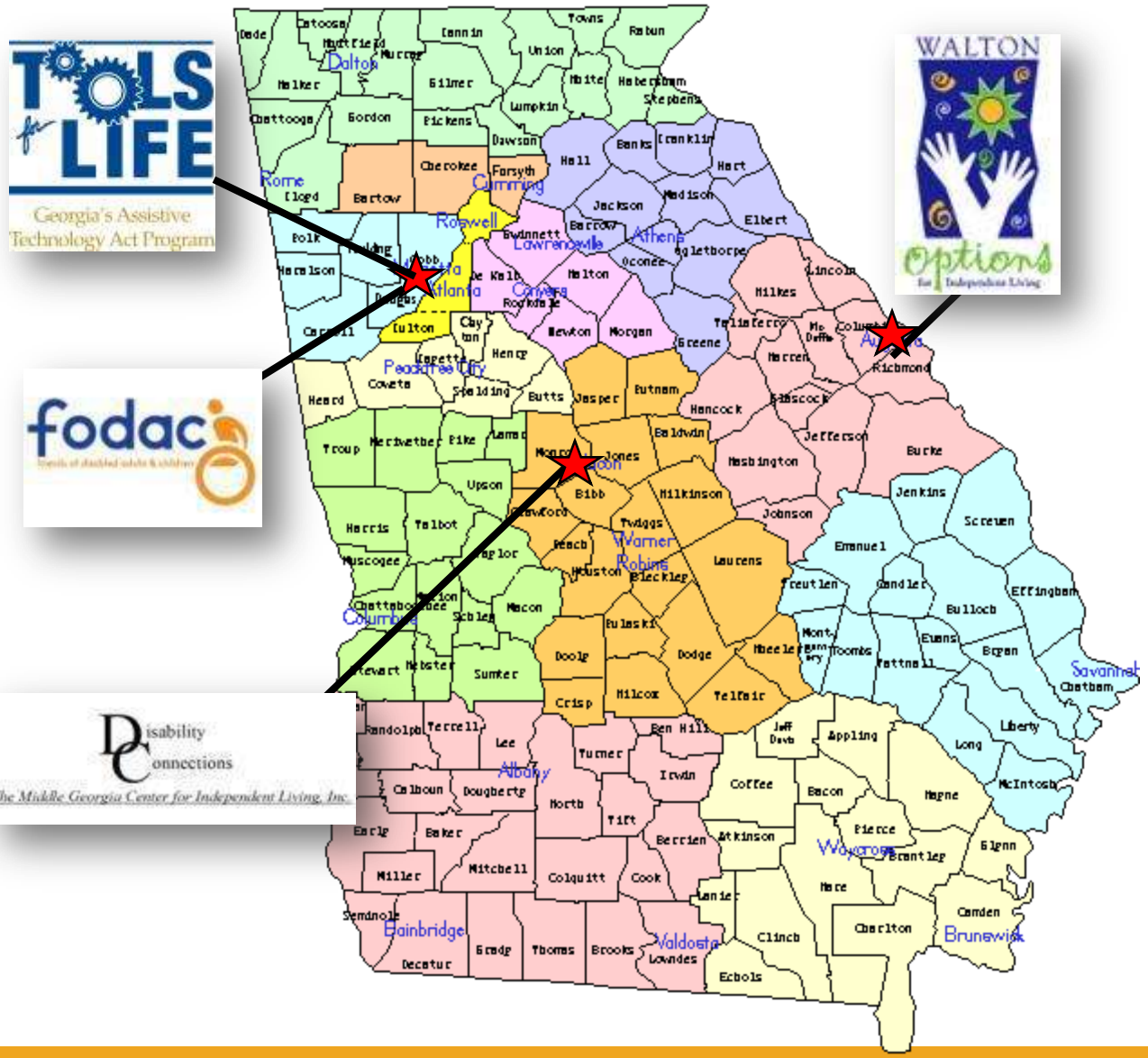
Tools for Life

Georgia's Federal AT Act Program

- TFL developed Georgia's Plan for AT
- We serve individuals of all ages & all disabilities in Georgia
  - Over 50,000 thru various activities throughout the year
- TFL Network
  - Assistive Technology Resource Centers
  - Lending Libraries
  - Training and Demonstrations
  - AT Reuse
  - AT Funding Education/Assistance and Resources
- Online Resources
  - www.gatfl.org - 12,000 unique visitors a month

Tools for Life Network

- AT Lending Library
- AT Evaluations & Training
- AT Demos
- Resource and Assistance
- AT Funding Assistance
- DME Reuse



The "FAST" Track

- **Frustration**
- **Anxiety**
- **Stress**
- **Tension**

The SETT Framework

S = Student/Skills

E = Environment

T = Tasks

T = Tools

Adapted from Joy Zabala www.joyzabala.com

What is Assistive Technology?

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Assistive Technology Device

...any item, piece of equipment or product that is used to increase, maintain or improve functional capabilities of individuals with disabilities.

- Public Law 105-394 [29 USC 2201]

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,
- smartpens
- OCR scanner/software
- magnification software
- speech output devices
- switch, joystick access
- scanning access
- voice recognition
- environmental control devices
- apps over $100

Assistive Technology Continuum

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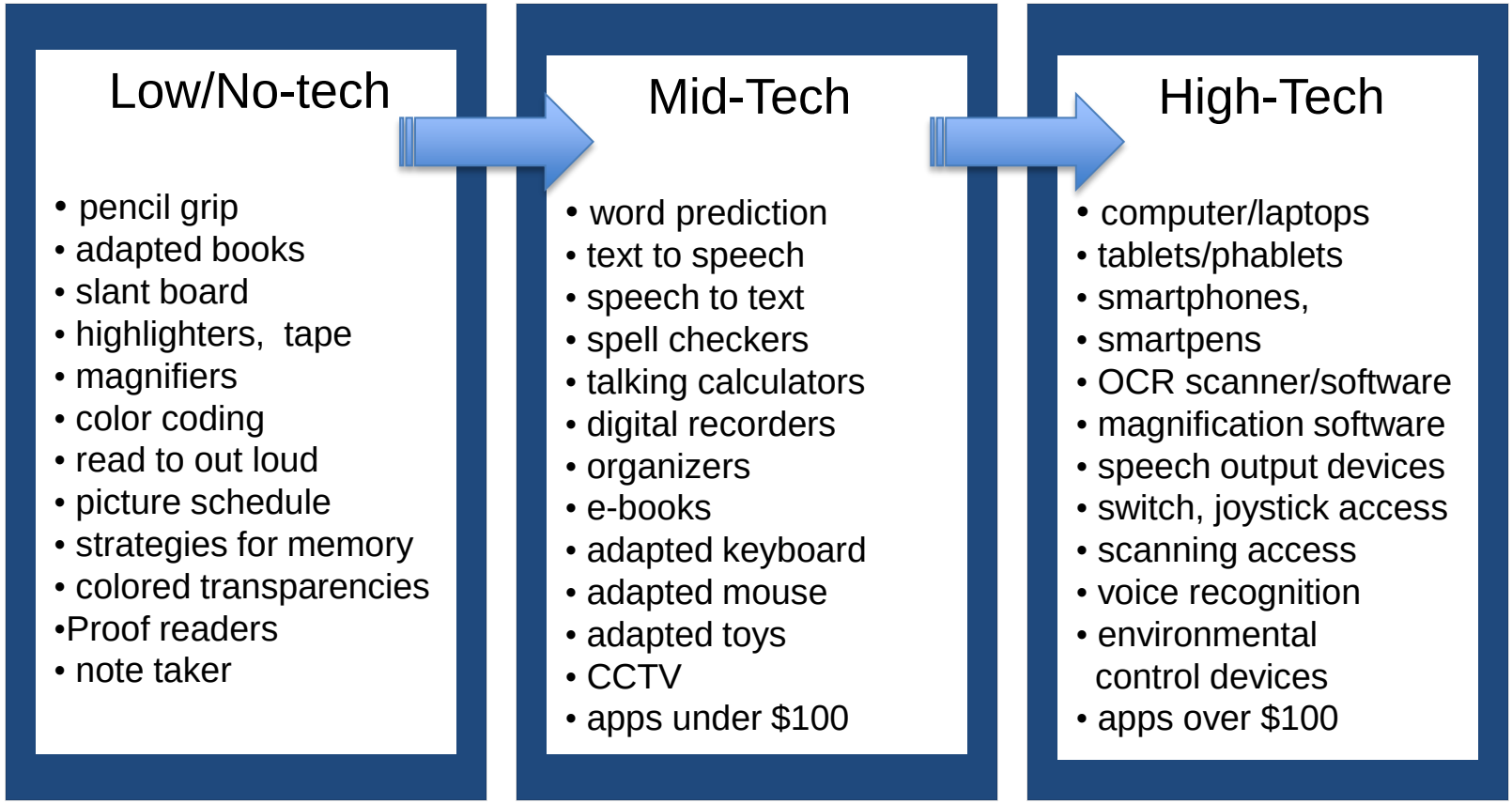
Observations & "Hanging out with Intent"

Assistive Technology is a **continuum of tools, strategies, and services** that match a person's needs, abilities and tasks.



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Reading & Writing Software Solutions

Kurzweil 3000

- Text-to-Speech software
- Helps improve reading speed and comprehension
- Note taking capabilities
  - Different color highlighters
- firefly
  - Access many features of Kurzweil through the internet
  - firefly demo
- Free download trial
  - www.kurzweiledu.com
  - Kurzweil 3000 Demo

Kurzweil EDUCATIONAL SYSTEMS®

TextHelp

- Text-to- Speech software
- Helps improves reading skills
- Built in text and picture dictionaries
- Study skills highlighter
- Has a Google Chrome version
- www.texthelp.com

TextHelp for Google

- Open a webpage within the Chrome Browser
- Click on the Read&Write for Google icon to open up the toolbar (click on the icon again to close out the toolbar later

Ginger

- Online grammar and spell checker
- Can see corrections as you type or use Ginger Proofreader to scan the entire document for mistakes
- Will read corrections out loud
- Has an mobile Android app
- Works inside Word and emails
- Text to Speech
  - Read emails and docs
  - Can choose voice and accent
- Ginger Demo

Read the Words

- Free text to speech program that converts text, documents, websites and RSS files into speech
- Uses an Avatar, which you can customize, to read the text
- Can also create pod casts or send the file via email

- www.readthewords.com/

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Voice Input Solutions

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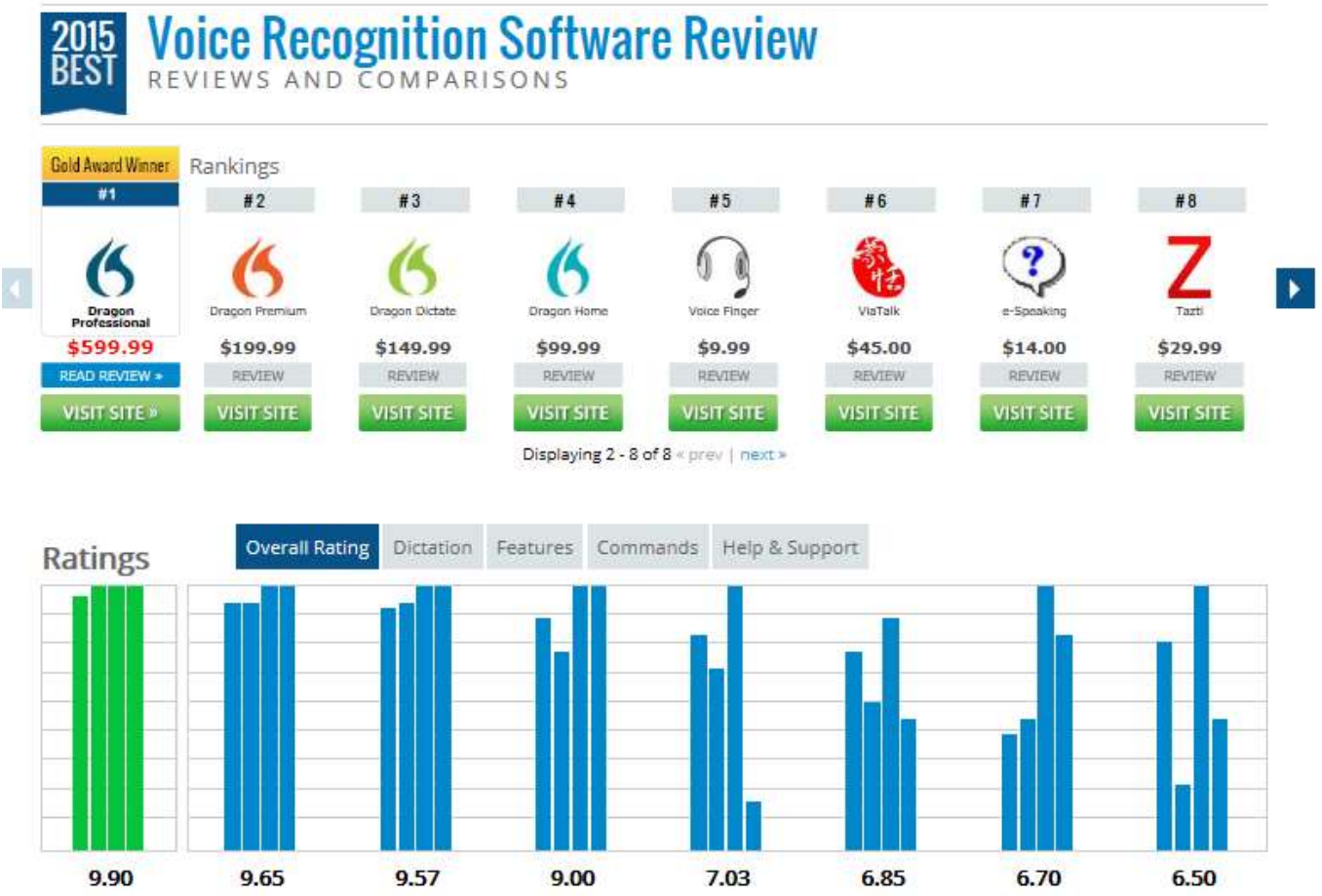
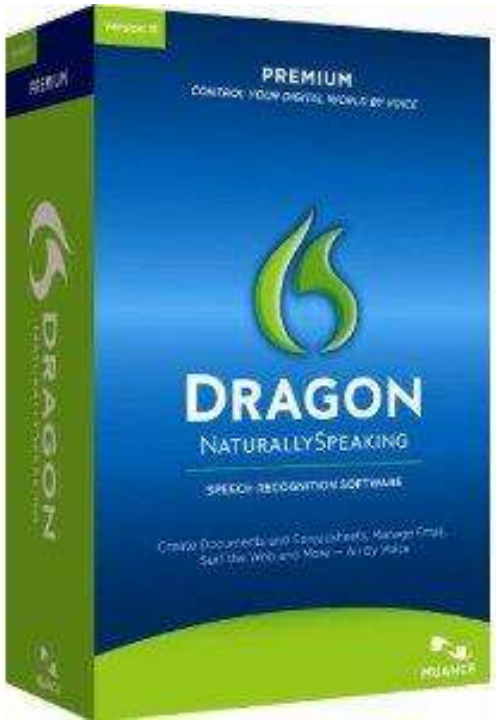
2015 Software Review



Speech Recognition Software

- Turn spoken words into text
- Connect with the timing of your thoughts
- Dictation speed 70 to 100 words per minute

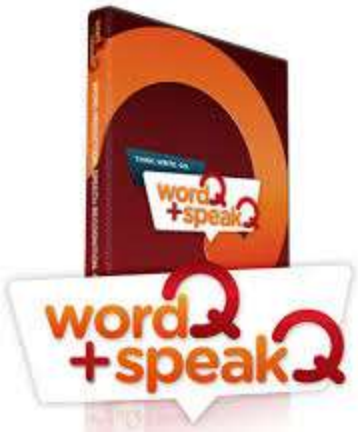


Word Q/ Speech Q

- Software that has built-in word prediction
- Suggests words
- Spoken feedback to hear what was written
- Speech Q is a plugin for Speech Recognition

- 30 day free trial

http://www.goqsoftware.com/trial/



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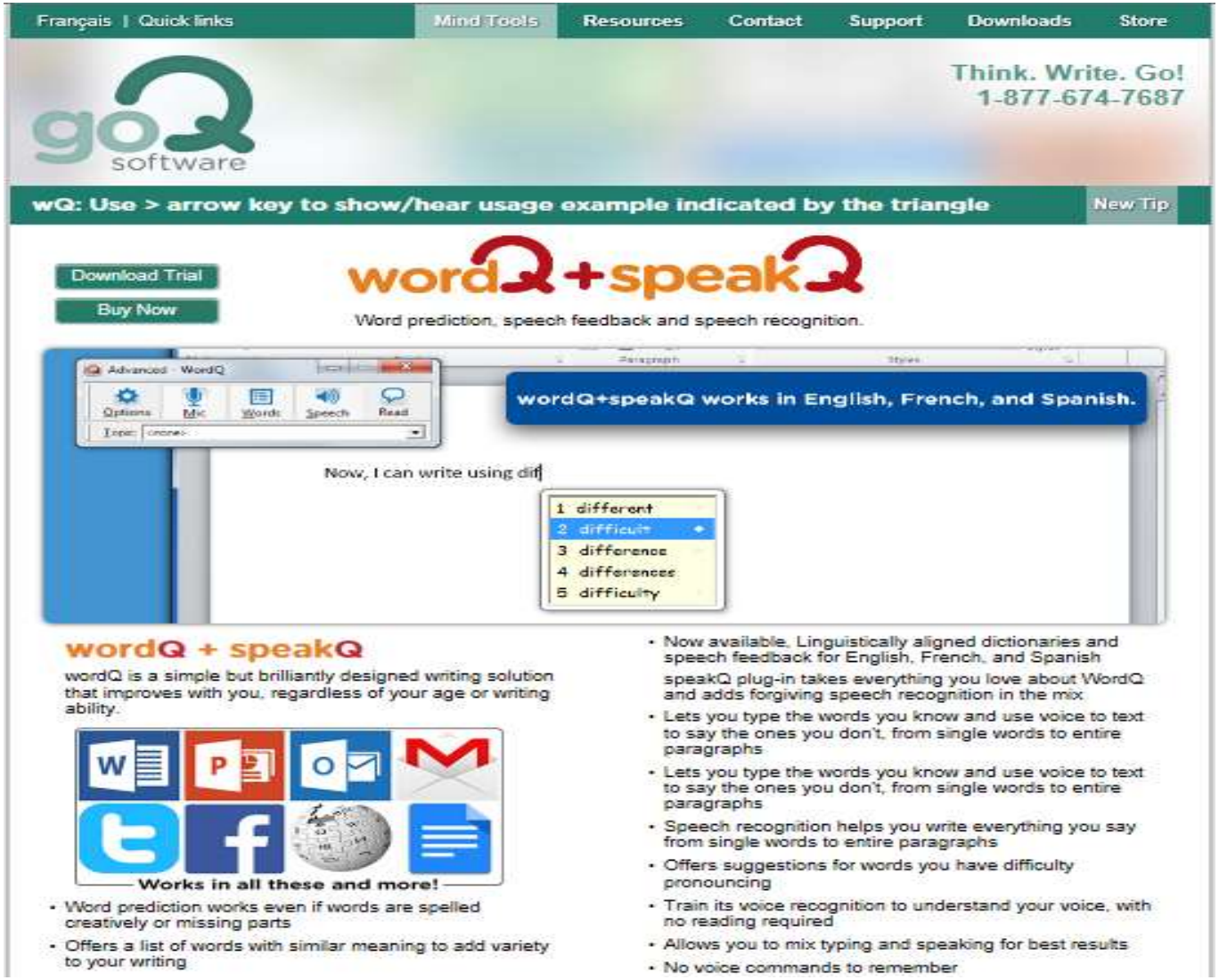
wordQ + speakQ



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Organization

Mindview 6

- Visual outlining
- Helpful in notetaking
- Create story boards
- Assists in organization of papers
- Exports into Word, PowerPoint, and Excel
- Easy to use
- Can add pictures
- www.matchware.com

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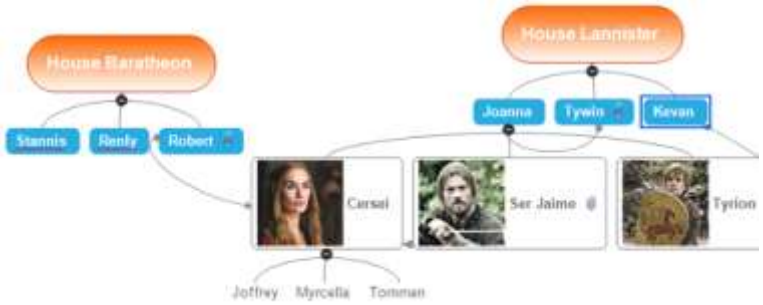
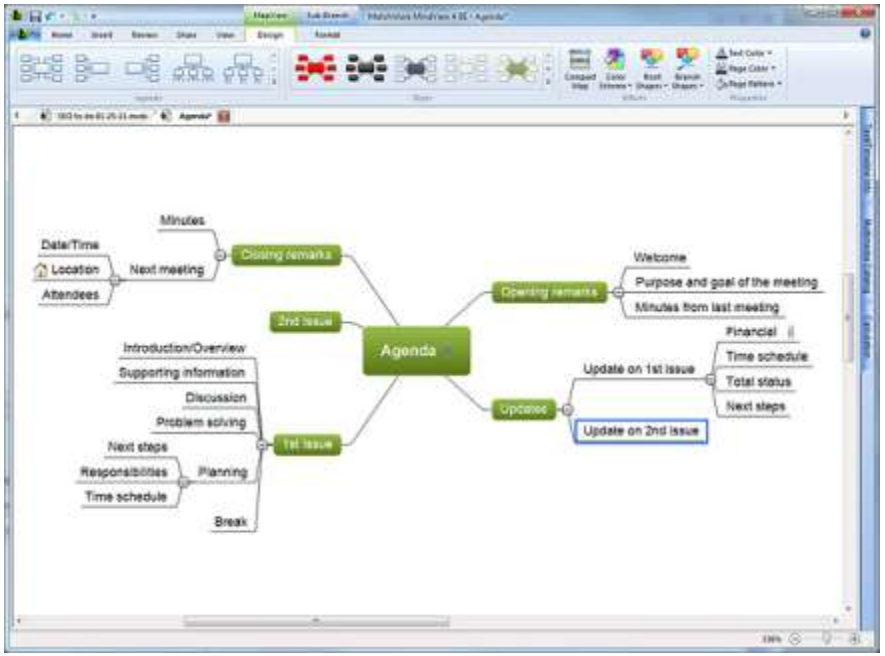
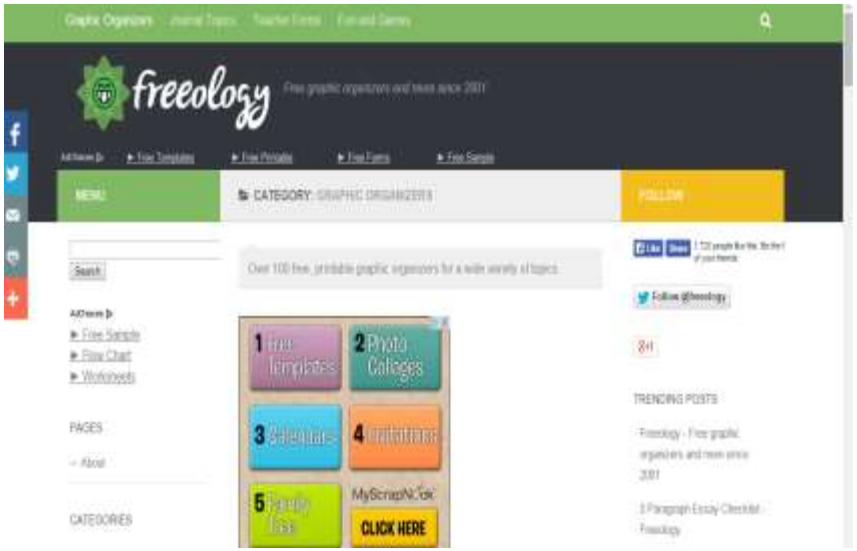




Freeology

- FREE graphic organizers, journal topics, forms for teachers, and links to free teaching resources
- www.freeology.com



60 Second Recap Video Notes

- Educational video project that provides 60-second video summaries
- Analysis of classic literature, including plot, themes, characters, symbols, motifs and other aspects.

- www.**60secondrecap**.com/

Amazon Echo

- Speech-controlled speaker system
- Voice recognition - further distances
- Timers, news, information
- Invitation only
- $199, $99 Prime members

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Which One???

Microsoft Surface

- Windows 10
- Slim and has a USB port
- Moveable Tiles
- Built-in Accessibility
  - Speech-to-text
  - Narrator
  - Magnifier
  - High contrast
- Thin pressure sensitive cover that doubles as a keyboard
- Starts at $499

Samsung Galaxy Tab 4

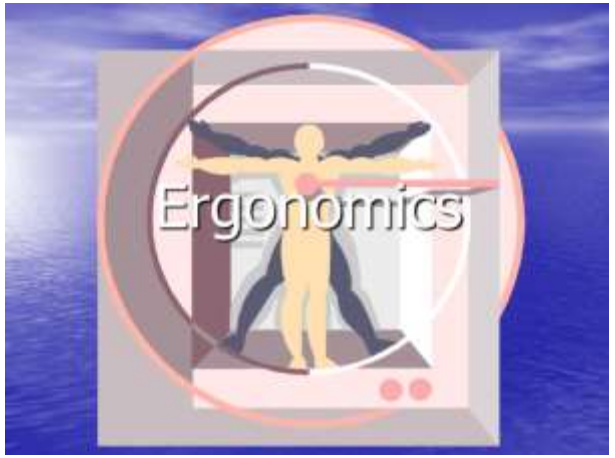
- Android System
- 7, 8, 10, 12 or 18” in screen
- Camera
- Micro card
- Wi-Fi
- USB for computer
- Some built-in accessibility app
  - Download others
- Starts at $149.99

Apple iPad Pro/Air/Mini

- Multi - touch screen
- Smart Keyboard with iPad Pro
- New iOS 9
- Millions of apps
- Surf web
- iTunes
- HD Video
- Organization
- Accessibility
- Books
- Photos
- Speakers
- 5.0 megapixel camera

What is Ergonomics

- Greek word: Laws of Work
- Science that studies work in various environments, and the tools used to perform tasks in those environments
- Goal: match the capabilities and “limitations” of the human body



When is an evaluation needed

- Proactive/Prevention
- When working posture is affecting performance, attention, and creating pain
- **TIP:** Consider incorporating ergonomic principles into the IEP to support educational goals.
  - Helps with breathing, circulation, attention, concentration & ultimately learning
  - Must consult with a trained professional
  - Educate everyone – student, family, teachers, parapros

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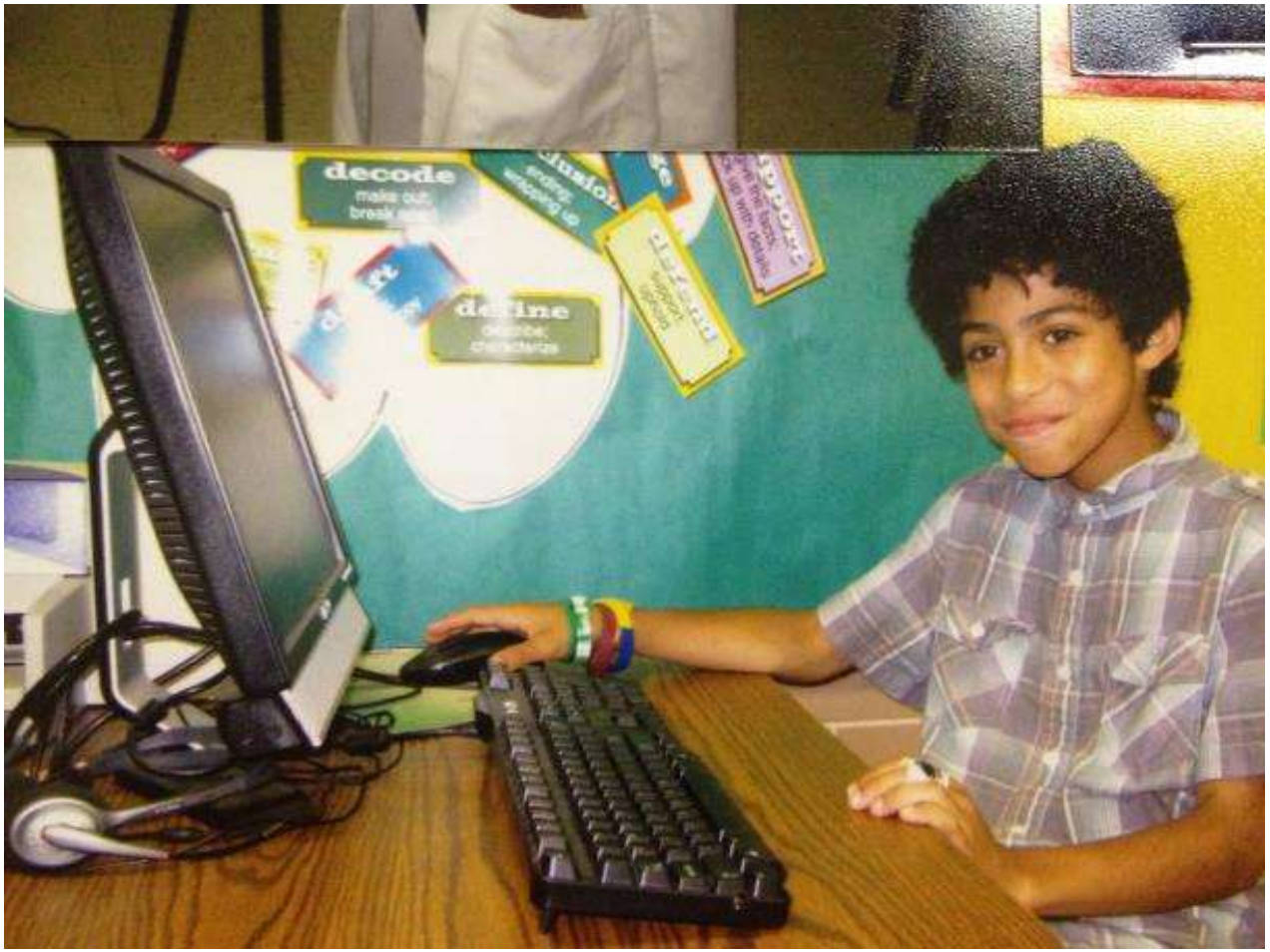
Computers



Ergonomics in the Classroom
Areas to Evaluate

- Chair
- Monitor
- Desk
- Keyboard & mouse

Poor Sitting Posture

- Inhibits blood flow
- Creates muscle shortening
- Stresses back muscles and compresses spine
- Can inhibit learning
- Compresses diaphragm
  - Affects breathing
  - Voice quality

Ergonomics in the Classroom

Stand Up For Your Health
Physiologists And Microbiologists Find Link Between Sitting And Poor Health

June 1, 2008 — Physiologists analyzing obesity, heart disease, and diabetes found that the act of sitting shuts down the circulation of a fat-absorbing enzyme called lipase. They found that standing up engages muscles and promotes the distribution of lipase, which prompts the body to process fat and cholesterol, independent of the amount of time spent exercising. They also found that standing up uses blood glucose and may discourage the development of diabetes.

ScienceDaily®
Your source for the latest research news

Chairs

- Proper height for desk or height adjustable if possible
  - boost height in a non-adjustable chair
- Thighs should not be in contact with the front edge of the seat
  - 2” to 3” between front edge of chair and back of knees
  - Use firm pillows or cushions to reduce seat depth
- Adjust the chair so feet are flat on the floor and thighs parallel to the floor
  - use foot rest or seat cushions to achieve proper posture
- If child is wheelchair user feet should make good contact with footplates

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Good Posture

(Cornell University Ergonomics)

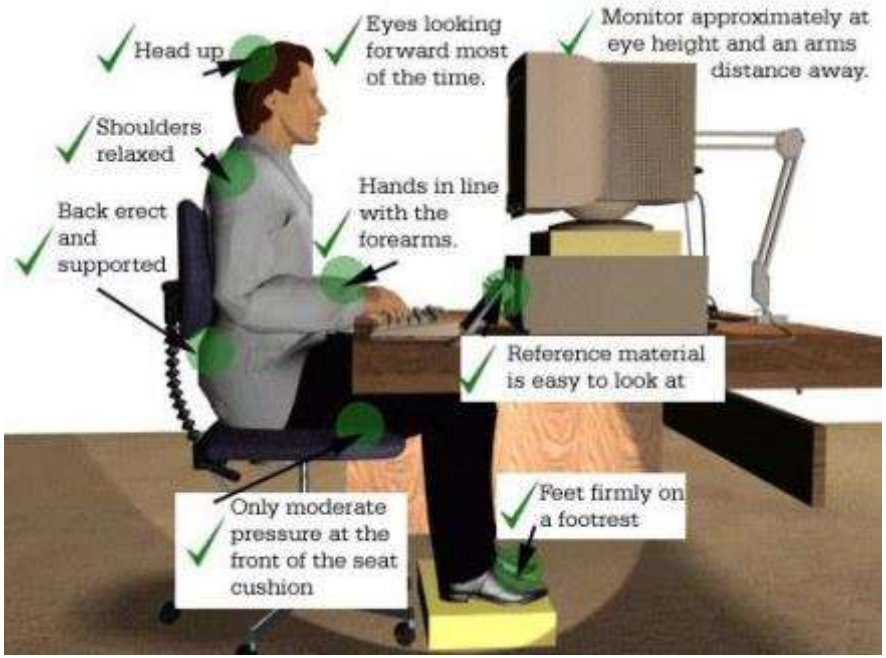
Options

$125

$116

Monitor

- Centered on desk
- The top of monitor should be at eye level allowing text on screen to be at or slightly below eye level
- Positioned arms lengths away unless visual acuity issues
- Use document holders
- Minimize glare



Upper Extremity Positioning

- Mouse and keyboard surfaces should be on the same plane
- Position close to the user's body to eliminate shoulder strain and neck pain
- Elbows should be kept at a 90 to 100 degree angle
- Avoid bending the wrists when typing; Keep wrists in neutral
- Keyboard trays can help position devices at correct height

Ergonomics in the Classroom

Writing Solutions:

– “The Penagain takes a novel ergonomic approach to ink pen design. The body of the pen is shaped like a "Y" creating a cradle for the index finger to rest in.” http://ergonomics.about.com/od/buyingguide/fr/frpenagain.htm

– Wide barrel pens can make it easier for some people to write due to their contoured shape. With a Fat Ergonomic Pen there’s more surface area to grip which makes it easier to write.

Ergonomics in the Classroom

Writing Solutions:

- "Stabilo's goal is to make writing and drawing easier, so they work closely with ergonomic and fine motor specialists to achieve the optimum ergonomics results. Their products low weight and ergonomic shape, the hand muscles do not tire too quickly, as only a light pressure is required, eliminating the pain of hand cramps. Their pen and pencils even encourage good posture, which can improve academic performance in children and students." https://www.thewritingpenstore.com/c-307-easyergo-s-move-easy.aspx

- The Free Ride's vibrant and sleek metal frame is perfectly balanced with the neutral hand placement grips. https://www.thewritingpenstore.com/c-295-free-ride-ergonomic-pens.aspx

Position for Learning:
Students with Attention Issues

Movement Helps Learning!

- 2003 study in *American Journal of Occupational Therapy* concluded that students with ADHD using ball chairs were able to sit still, focus and write more words legibly

- 2007 Mayo Clinic study concluded that a chair-less classroom increased attention and improved learning

- 2008 University of Central Florida study
  - children need to move to focus during a complicated mental task
  - especially those with attention-deficit/hyperactivity disorder (ADHD)—fidgeted more when a task required them to store and process information rather than just hold it.

Dump the chair?

- Engages core muscles
- Less impulsivity
- Increase focus

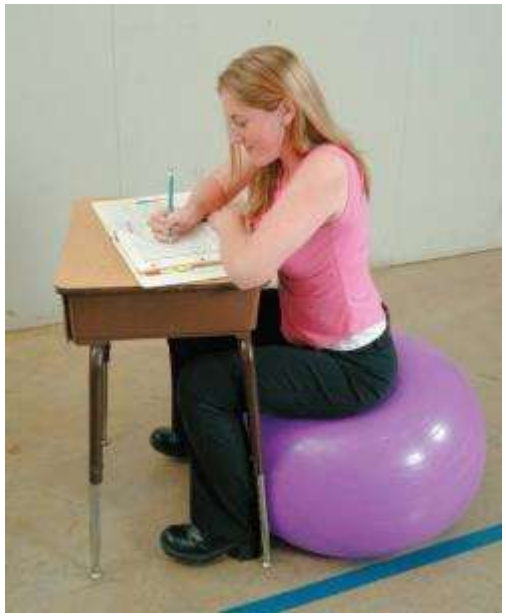
Height	***Recommended ball size***
Under 4'8"	45 cm ball
4'8'' to 5'3''	55 cm ball
5'4'' to 5'10	65 cm ball
5'10 to 6'4	75cm ball

For kids 5 years and younger, always use a 45 cm ball.
(Exercise Balls for Dummies)

Other options

Move Small Ergonomic Stool for Children

Seating Disc



Stay n place ball

Fidget Footrests

- Standing desks can help students who find sitting still difficult
- Use of dynamic footrests can help release energy and improve focus

http://classroomseatingsolutions.com/products.html

Mounts and Work Surfaces

- Sit/stand desks
- Tilt Desks
- Portable mounts for devices
- Adjustable monitor arms

Tilt Desks

- Positioning the work closer the student can improve visual access
- Promote upright trunk posture
- Improve head posture

Desktopdesk.com; $375

Mobile devices

Can also contribute to poor posture and repetitive motion injuries

Neck strain, nerve compression

Mobile devices

- Should be accessible for type of selection process
  - Direct selection with hands
  - Stylus
  - switches
- Use mounts to improve upper extremity and visual access

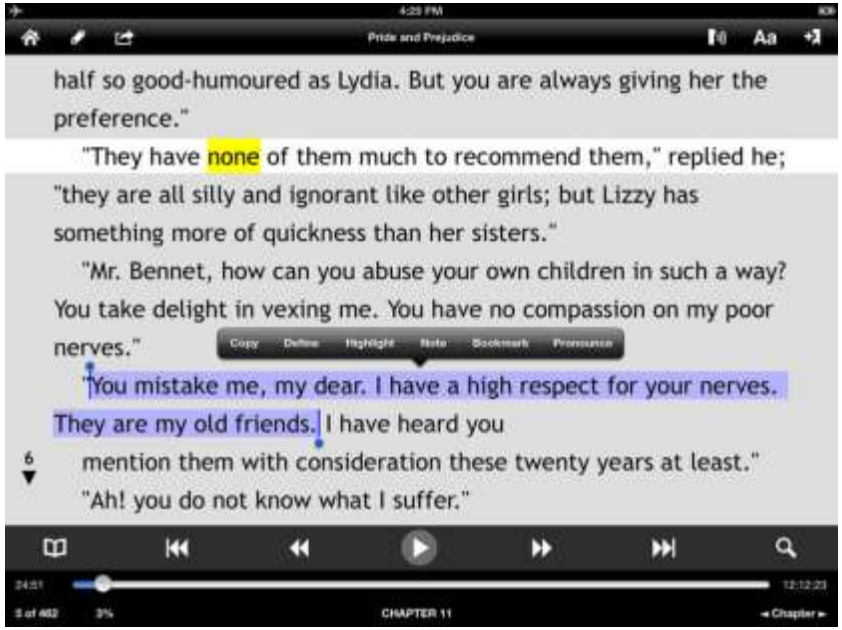
TFL AppFinder

Search by:

- ✓ **App Name**
- ✓ **Categories**
  - Book
  - Education
  - Environmental Adaptations
  - Hearing
  - Cognition, Learning, Developmental
  - Navigation
  - Personal Care and Safety
  - Productivity
  - Communication
  - Therapeutic Aids
  - Vision

Voice Dream

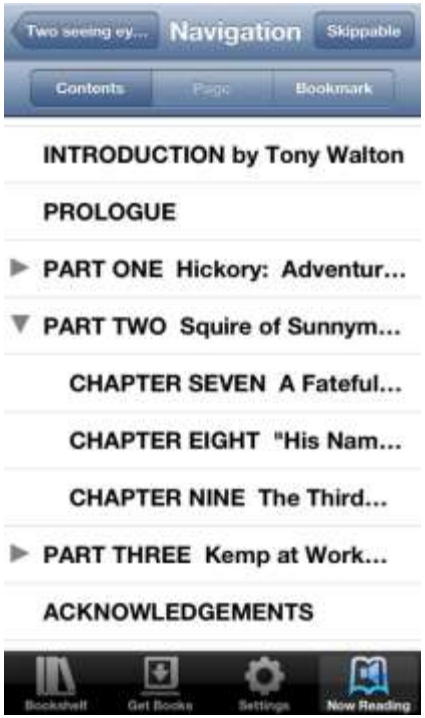
- Text to Speech
- Highlights as it reads
- Import
  - Bookshare
  - Dropbox
  - Gutenburg
  - Word Doc
  - PDFs
- Buy different voices
- Change rate of speed
- Download for later reading
- $9.99



Genius Scan

- Scan documents or handwritten notes
- Email the scans as JPEG or PDF
- Free
- Genius Scan Plus ($2.99) allows upload to Dropbox, Skydrive or Evernote

BARD Mobile



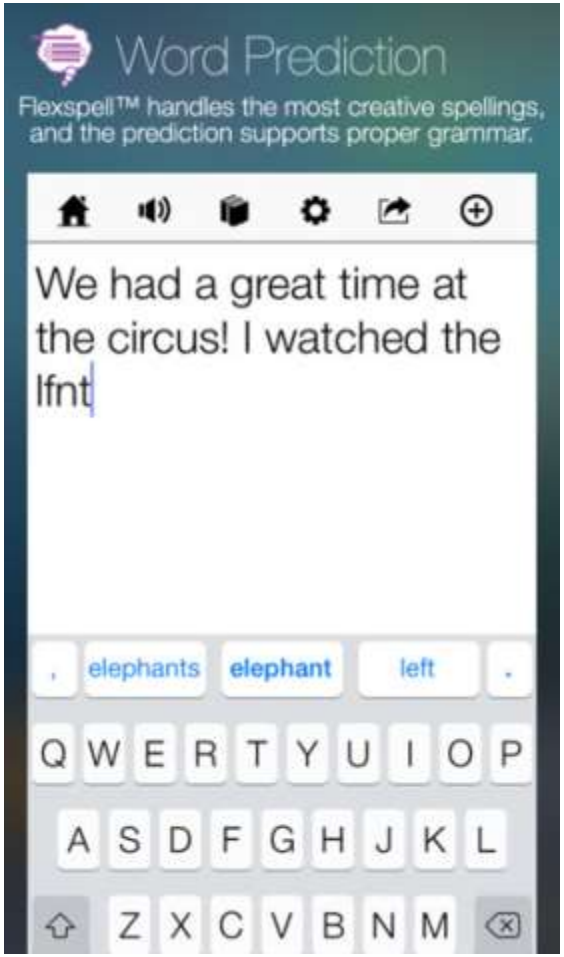
- Access directly to the National Library Service for the Blind and Physically Handicapped (NLS)
- Must be registered
- Settings
- Can use with braille display
- http://www.loc.gov/nls/find.html
- Free

Voice Dream- Writer

- reads out loud using text-to-speech
- can read words and sentences as they're typed or voice
- helps finding the right words through phonetic search and meaning search
- automatically keeps an outline of headings, paragraphs and sentences
- 9.99

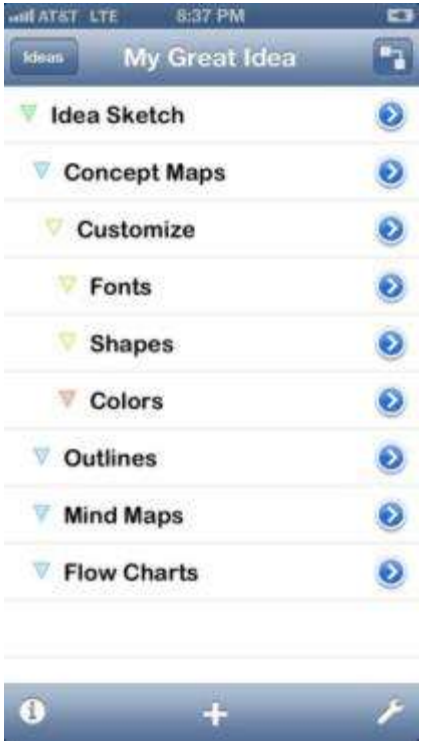
Co:Writer

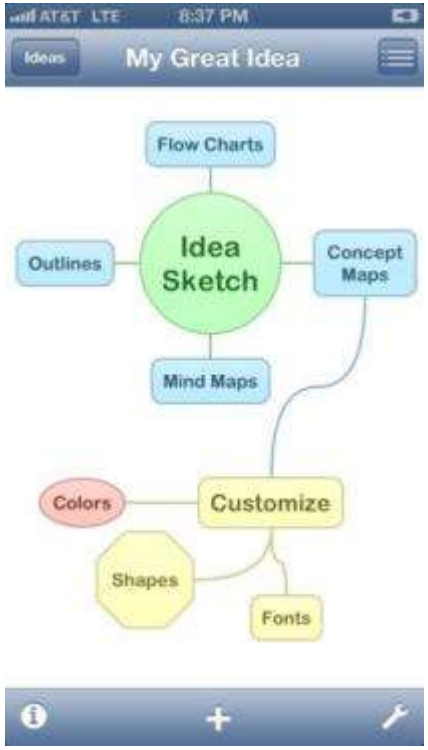
- By Don Johnston
- Word prediction
- Read items out loud
- Grammar Support
- Dictionary
- Spelling Support
- iCloud Support
- Export features
- $19.99



Ideament

- Mind and concept mapping
- Create flow charts
- Brainstorm ideas
- Convert flowchart to text outline and vice versa
- Free





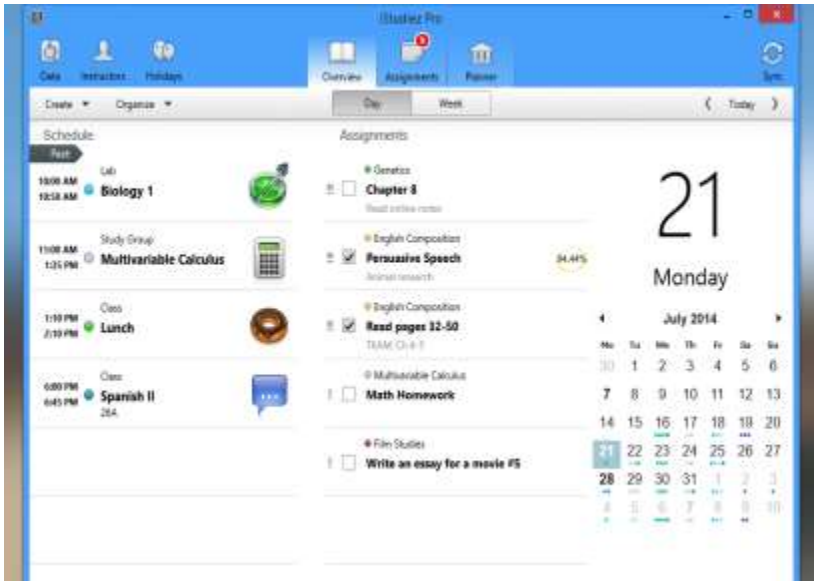
MindMeister

- Mind grapping tool that syncs with all devices
- Basic is Free
- Share and assign tasks
- Follow progress
- Numerous visual themes
- Assist with pre-writing stage
- Apple Watch version

AMAC
Accessibility for All

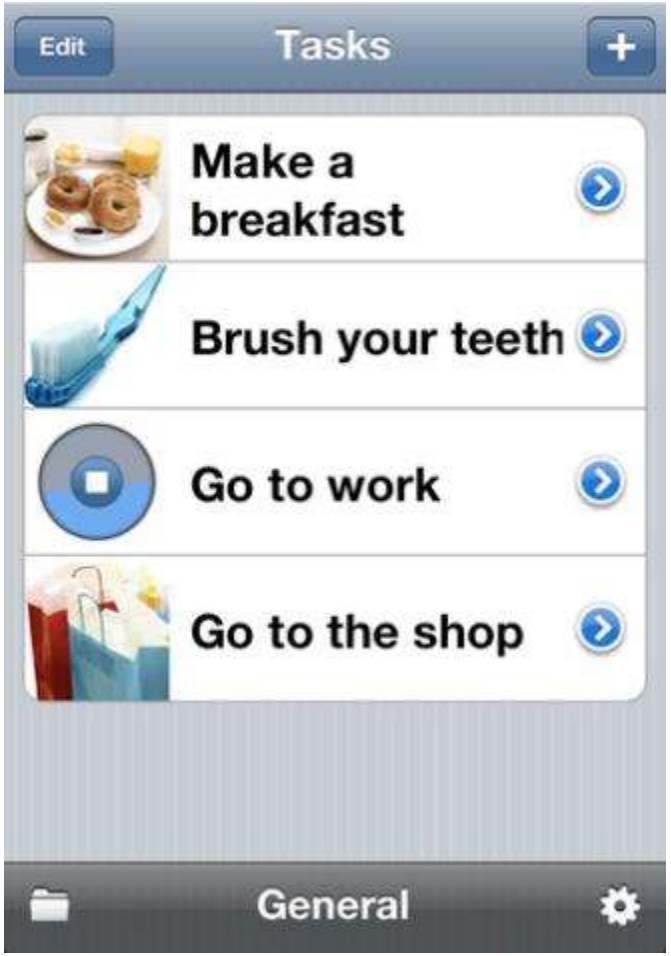
iStudiez Pro

- All tasks in one area
- Quick view of the day
- Innovative Schedule Planner
- Keep track of grades and GPA
- Syncs with iOS devices and Windows
- $2.99
- Lite version available



Picture Scheduler

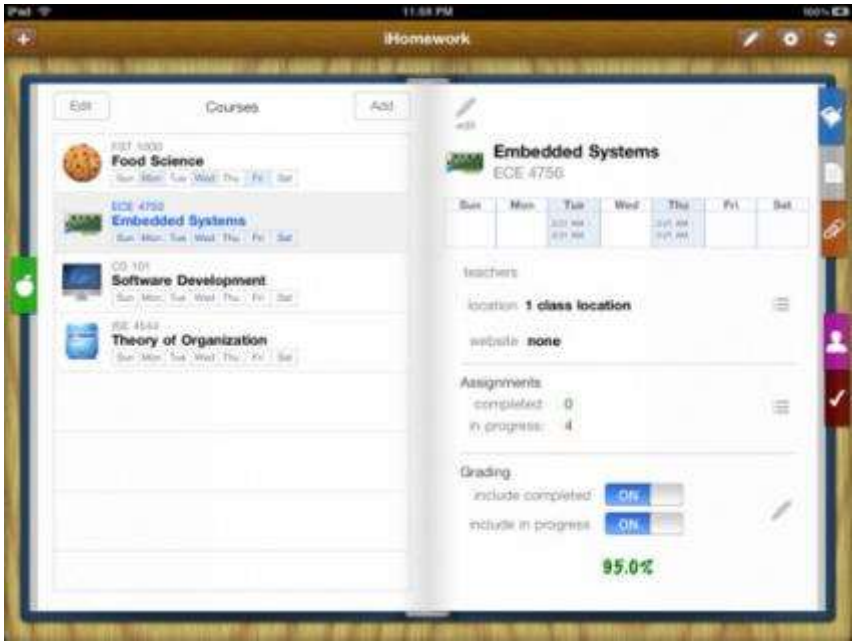
- Create visual tasks with attached audio, video or picture
- Tasks can have alarms
- Alarms can be repeated daily, weekly, monthly or you can select specific weekdays
- Tasks can be organized into categories with a picture
- Can hide task and reveal later



Wunderlist

- List management
- Create recurring to-dos
- Create subtasks
- Set due dates
- Reminders
- Notifications
- Cloud sync
- Email directly
- Generate unique and safe passwords
- Collaborate with anyone
- Access on all devices including web
- Free web version
- App is $12/year
- https://www.wunderlist.com/en/

iHomework



- Keep up-to-date with your school work, grades, to-do's, teacher's information
- School organizer that can be with you anywhere you go, whether that be on your iPhone/iPod touch, iPad, or Mac

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Reminders

- Built-in App
- Works with VoiceOver
- Organize your reminders
- Siri if have iPhone 4s or 5
- The new iPad

TOOLS for LIFE
Georgia's Assistive Technology Act Program

Preparation for the Future

- Compliance & Progress
- Save Energy
- Ready for the Workplace
- Let your environment work for you!

Preparation for the Future

- Compliance & Progress
  - Proper positioning will become habit and will provide comfort that will help to shape compliance over the years.

Preparation for the Future

- Save Energy
  - Muscles have to work extra hard just to hold you up if you have poor posture, leaving you without energy.
  - Work smarter, not harder!

References

- http://www.healthycomputing.com/kids/
- http://ergo.human.cornell.edu/cuweguideline.htm
- http://ergo.human.cornell.edu/cutodayimages.htm
- http://www.howtolearn.com/2012/08/backpacks-are-weighing-students-down
- http://ergonomics.about.com/od/ergonomicsforchildren/ss/bpweightchart.htm
- http://repetitive-stress-injury.blogspot.com/2012/07/we-discussed-office-ergonomics-in-last.html
- http://www.especialneeds.com/classroom-furniture-classroom-tables-chairs-adaptive-tables-chairs-jettstep-footrest.html
- http://www.classroomseatingsolutions.com/products.html
- http://kids-desks.ca/childrens-ergonomics.html
- http://pinterest.com/parko/positioning/
- http://www.therapro.com/Study-Pal-P4197C4192.aspx
- www.ergomart.com
- http://ajot.aotapress.net/content/57/5/534.abstract
- http://suite101.com/article/no-more-classroom-chairs-a34803
- http://www.time.com/time/magazine/article/0,9171,1889178,00.html
- http://www.desktopdesk.com/purchase.html

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TOOLS for LIFE
Georgia's Assistive Technology Act Program

Our Question to You:
What have You Learned today?

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