

Objectives

- Describe AT and the importance of AT documentation in practice and on the IEP.
- Explore and use important AT resources for ongoing independent learning and use in the classroom.
- Describe AT tools to support education including reading, writing, switch access and executive functions.
- Use and experience AT tools and apps that support access to education.

Agenda

Define AT
Resources
AT in the IEP
Assessment Tools
Writing Tools
Reading Tools
Switch Access Tools
Executive Functions

Orange County Department of Education
cindynankee@gmail.com
<http://universaltech4learning.com>



Activity

As a group or individual create a case example, real or fictitious. We will be working with this example throughout the day.

UDL – Universal Design for Learning

- Multiple means of representation to give learners various ways of acquiring information and knowledge,
- Multiple means of expression to provide learners alternatives for demonstrating what they know,
- Multiple means of engagement to tap into learners' interests, challenge them appropriately, and motivate them to learn
- Define multiple means: visual, auditory, linguistic, kinesthetic.

Assistive Technology

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

Any service that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device.

Federal Legislation <https://tinyurl.com/ycc18vwr>

What Makes AT AT?

"Children with a Disability"

The IEP makes AT AT

Role of School Based Therapy

School based therapy supports academic and non-academic outcomes, including social skills, math, reading and writing (i.e., literacy), behavior management, recess, participation in sports, self-help skills, prevocational/vocational participation, transportation, and more.

AOTA Fact Sheet:
<http://www.aota.org/-/media/Corporate/Files/AboutOT/Professionals/WhatIsOT/CY/Fact-Sheets/School%20Settings%20fact%20sheet.pdf>

Resources

<http://www.universaltech4learning.com>

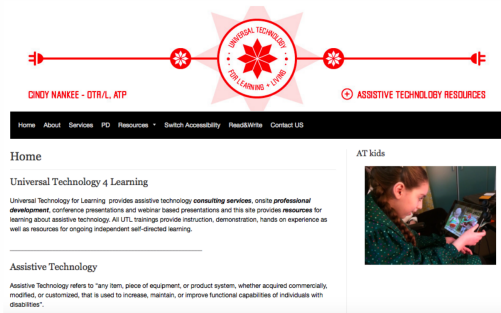
<http://www.occupationaltherapy.com>

<http://www.qiat.org/qiat-list.html>

<https://tinyurl.com/y8qoaomt> ablenet

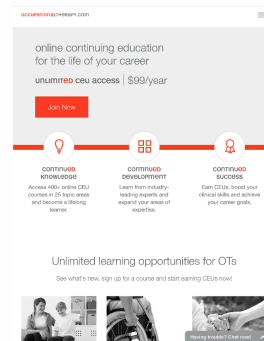
<http://www.atinternetmodules.org>

UniversalTech4Learning



<http://www.universalttech4learning.com>

<http://www.occupationaltherapy.com>

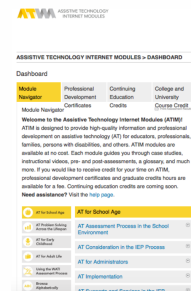


Quality Indicators for AT



<http://www.qiat.org/qiat-list.html>

Assistive Technology Internet Modules Demo



<http://www.atinternetmodules.org>

Activity

Create a free account at :

<http://www.atinternetmodules.org>

Explore the dashboard

<https://tinyurl.com/y8qoaomt>

Documenting AT in the IEP

IDEA requires that the IEP team consider assistive technology for every student with a disability.

Resource:

- ATIM Assistive Technology Internet Modules
<http://www.atinternetmodules.org>
 - Consideration in the IEP
 - Supports and services in the IEP
- <http://www.attainmentcompany.com>



Assistive Technology Device or Service

AT may be documented in the following sections of the IEP

- Special Factors
- Present Level of Performance
- Annual Goals and benchmarks
- Related Service
- Supplementary Aids & Services

Special Factors

- The IEP team must consider assistive technology.
- This is a brief conversation not an evaluation or assessment.
- The consideration may decide further assesment is needed for AT.
- Current AT may be listed under special factors.
- This may best be completed after goals and accomodations are discussed

Special Factors Consideration

* D. Does the child need assistive technology services or devices, including any services or devices needed to assist with reading?
☒ Yes ☐ No

If yes, describe the needs (document needed services in Instructional Services).

Source

Font Size

Large key keyboard
 Single button mouse
 Scanned worksheets
 Adapted keyboard on iPad
 Text to speech on computer/iPad for ELA
 Type on Pdf on iPad for written work
 Digital text

E. Is the child deaf or hard of hearing?
☐ Yes ☒ No

Annual Goal vs. Benchmarks

Annual Goal:
 Student will complete writing assignments at the second grade level with writing supports.

Benchmarks:

- In OT Student will learn to use a mobile device with word prediction to complete fill in the blank worksheets.
- In OT student will use mobile device with word completion to complete 2-4 word phrases sentences.
- Implement use of mobile device with word prediction in the classroom to complete fill in the blank and short answer writing assignments.

Common Core Essential Elements

The CCEEs were developed to satisfy the requirement of the U.S. Department of Education that Wisconsin have alternate achievement standards for its students with significant cognitive disabilities that are clearly linked to grade-level academic content standards, promote access to the general curriculum and reflect professional judgment of the highest expectation possible

Wisconsin Department of Public Instruction: Common Core Essential Elements
http://sped.dpi.wi.gov/sped_assmt-ccce

Present Level

Example

Present Level: Cindy participates in regular education for her academic subjects. Hand strength is limited and she fatigues quickly when doing handwriting tasks. Cindy is able to complete fill in the blank worksheets and short answer questions but struggles with writing assignments greater than 1 sentence in length. In OT Cindy has demonstrated the ability to type 25 WPM using word prediction to reduce keystrokes.

Annual Goal: Cindy will use a mobile device with word prediction to complete 100% of her assignments in 10th grade English.

Related Service

Example

Walkers, Wheelchairs, AAC, Computers, Mobile devices.
 Must include frequency, duration and location.

Related Service	Frequency	Duration	Location
AAC Device	Daily	Entire School Year	Riverdale School

Related Service	Frequency	Duration	Location
AAC Device	Daily	Entire School Year	Riverdale School

Annual Goals

DPI <https://tinyurl.com/y9v4xtkz> pg. 32

- OT and PT are support services
- Goals are written non discipline specific
- I often write benchmarks in support of the annual goal

toward achieving the goal.

The IEP should not include a separate page of occupational therapy goals and a separate page of physical therapy goals. The IEP team as a whole writes the child's goals for academic and functional performance. The goals describe activities and behaviors that the child will demonstrate in the classroom and other educational environments, and are not discipline-specific. Tools that may assist the IEP team in writing the child's goals are the *School Function Assessment* (Coster et al., 1998) for students in kindergarten through sixth grade, and the *Enderle-Severson Transition Rating Scale* (Enderle and Severson, 2003) for older students.

Using the *School Function Assessment*, the IEP team could write the following goal: *The student will travel independently throughout the school building.* This goal is not discipline specific. It may require the OT to orient the

Supplementary Aid or Service

Device or service that requires little instruction and allows placement in the LRE.

Example

Supply Aids & Service	Frequency	Duration	Location
AAC device training	2x's/year	30 minutes	Spec. Ed. meeting

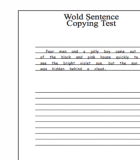
Supply Aids & Service	Frequency	Duration	Location
AAC device training	2x's/year	30 minutes	Spec. Ed. meeting

Activity

- Present level: revise your case example
- Special Factors - consideration:
 - yes or no?
 - need further assessment?
 - list AT reflected in present level
- Benchmarks
- Related Services
- Supplemental Aids and Services

Assessment Tools

- OT/PT evals.
- Wold Sentence Test
- Typing/WPM
- Compass
<http://www.kpronline.com>
- Tools for the WATI Assesment Process



The WATI Assessment Process

- Referral
- Information gathering
- Decsion Making
- Tool Selection
- Implementation Planning
- Trial Use

Information Gathering

Chapter 1 - Assistive Technology Assessment

WATI Student Information Guide

SECTION 4
Motor Aspects of Writing

1. Current Writing Ability (Check all that apply.)

- ☐ Writes independently and legibly
- ☐ Writes cursive
- ☐ Writes on 1" lines
- ☐ Writes on narrow lines
- ☐ Uses space consistently
- ☐ Stays within the lines
- ☐ Prints a few words
- ☐ Prints name
- ☐ Scribbles with a few recognizable letters
- ☐ Pretend writes
- ☐ Uses adjusted pencil or pencil grips
- ☐ Holds pencil, but does not write
- ☐ Copies from book (over print)
- ☐ Copies from board (for print)
- ☐ Copies simple shapes
- ☐ Writing is limited due to fatigue
- ☐ Writing is slow and awkward

2. Current Keyboarding Ability (Check all that apply.)

- ☐ 10 finger typing (functional speed)
- ☐ 10 finger typing (functional or slow)
- ☐ One finger typing (functional or slow)
- ☐ Does not currently type
- ☐ Activates desired key on command
- ☐ Accidentally hits unwanted keys
- ☐ Requires eye or wrist support to type
- ☐ Computer use (Check all that apply.)
- ☐ Uses a computer for word processing
- ☐ Uses a computer for Internet searches
- ☐ Uses a computer for email
- ☐ Uses a computer for games, music, etc.
- ☐ Uses a computer for other (list) _____
- ☐ Has potential to use computer but has not used a computer because _____
- ☐ Uses alternate keyboard (list) _____
- ☐ Uses screen software (list) _____
- ☐ Uses touch window
- ☐ Uses head or mouth stick
- ☐ Uses switch to access computer
- ☐ Uses Morse code to access computer
- ☐ Other _____
- ☐ Uses computer at school
- ☐ Uses computer at home
- ☐ Has never used a computer
- ☐ Uses computer for Internet (games, music, etc.)
- ☐ Uses computer for other (list) _____
- ☐ Has potential to use computer but has not used a computer because _____
- ☐ Uses computer rarely (less than 1x/week)
- ☐ Uses computer daily
- ☐ Student uses computer for one or more subjects (list subjects) _____

Environmental Observation Guide

Environmental Observation Guide

Student's name: _____
School: _____
Observer: _____
Date of Observation: _____
Type of class: _____

Directions: Complete this Environmental Assessment Checklist before beginning.

Describe the environment: Record short responses in the space provided.

Special or general education classroom?	
Specialty classroom (Specialty, e.g., IT, computer lab)?	
Therapy room? (Specify) _____	
Number of students in class?	
Number of adults in class?	
Number of students in class?	
How many days per week in the program?	
How many hours/day?	
Is the environment busy or quiet?	
Are there large open areas or small divided sections?	
How are the desks arranged?	
Are materials visible for students?	
Are materials accessible, appropriate, varied, interesting?	
Is special equipment available (e.g., chairs with arm supports)?	
Where is the classroom located in relationship to the cafeteria, therapy, outdoor play areas, etc.?	
Are bellhounds located in or outside the classroom?	

Sensory Stimulation: Judge the level of sensory stimulation and record it with a check in the corresponding box. Enter comments or notes that clarify your responses if needed.

	Excessive	Balanced	Reduced	N/A	Comments
Auditory					
Visual					
Other classroom					
Other students					

WATI AT Decision Making Guide

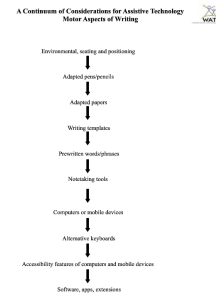
WATI Assistive Technology Decision Making Guide

Consideration of Motor Aspects of Writing

Student's Abilities/ Difficulties	Problem Identification	Task
What are the student's abilities & difficulties related to the motor aspects of writing?	What environmental considerations impact the student's motor aspects of writing?	What tasks do you want the student to do that would require writing?
<ul style="list-style-type: none"> Review Student Information Guide Positioning Physical considerations Assess method Cognitive skills Literacy skills Visual Considerations Social/Emotional Organization Motivation Sensory challenges 	<ul style="list-style-type: none"> Review Environmental Observation Guide Classroom Student to teacher position Student to adult material Teacher/student group Travel/ID of classroom Teacher experience Workstation/desk/positioning Student accessible technology Home 	<ul style="list-style-type: none"> Writing assignments (handwritten/typed/graphical) Handwriting Reading Research management Other
<ul style="list-style-type: none"> Review Student Information Guide Positioning Physical considerations Assess method Cognitive skills Literacy skills Visual Considerations Social/Emotional Organization Motivation Sensory challenges 	<ul style="list-style-type: none"> Review Environmental Observation Guide Classroom Student to teacher position Student to adult material Teacher/student group Travel/ID of classroom Teacher experience Workstation/desk/positioning Student accessible technology Home 	<ul style="list-style-type: none"> Writing assignments (handwritten/typed/graphical) Handwriting Reading Research management Other
<ul style="list-style-type: none"> Review Student Information Guide Positioning Physical considerations Assess method Cognitive skills Literacy skills Visual Considerations Social/Emotional Organization Motivation Sensory challenges 	<ul style="list-style-type: none"> Review Environmental Observation Guide Classroom Student to teacher position Student to adult material Teacher/student group Travel/ID of classroom Teacher experience Workstation/desk/positioning Student accessible technology Home 	<ul style="list-style-type: none"> Writing assignments (handwritten/typed/graphical) Handwriting Reading Research management Other

Important: It is intended that you use this as a guide. Each category should be written in large print where everyone can see them. i.e. on a flip chart or board. Information should then be transferred to paper for distribution, file, and future reference.

AT Continuum for Writing



Feature Match

MobileTechFeatureMatchChart.pdf

STEP 1: Match tasks to desired feature

Instructions:

- Enter descriptions of specific TASKS the student will do across the top row - 1 task per column
- Enter needed features in the shaded left column - 1 feature per row

USE ADDITIONAL SHEETS IF NECESSARY

SPECIFIC TASKS	NEED FEATURES								

STEP 2: Match desired features to potential tools.

Instructions:

- Enter FEATURES needed by the student in the left column - 1 feature per row
- Enter promising tools across the top row - 1 tool per column
- Mark each tool to indicate whether it has the desired features

USE ADDITIONAL SHEETS IF NECESSARY

TOOL OPTION	Mobile Device	App(s)	Device	Other Option
NEED FEATURES				

Trial Use Guide

Chapter 1 - Assistive Technology Assessment

WATI Assistive Technology Trial Use Guide

AT to be tried: _____

Student's Name: _____ DOB: _____ Age: _____ Meeting Date: _____
School Agency: _____ Grade/Placement: _____
Contact Person(s): _____ Address: _____
School Agency Phone: _____
Person Completing Guide: _____
Parent(s) Name: _____ Phone: _____
Parent(s) Address: _____

Goal for AT use: _____

ACCOMPLISH	Person Responsible	Date Available	Date Received	Date Returned

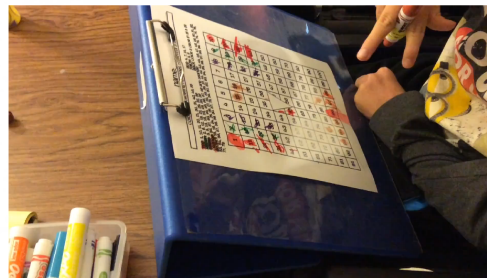
Person primarily responsible to learn to operate this AT: _____

Training:

Person(s) to be trained	Training Required	Date Begins	Date Completed

AT Tools for Writing

Video



Motor Aspects of Writing

Neuromuscular

- Postural stability
- Head control
- Muscle tone

Visual Perception

- Discrimination
- Spatial relations
- Form constancy
- Visual memory
- Figure ground

Motor Coordination

- Grasp
- Dexterity
- Bilateral coordination
- Crossing midline
- Motor planning
- Hand strength

Cognitive

- Attending
- Direction following
- Organization

Social/emotional

- Confidence
- Self-esteem

Neuromuscular

- Postural stability
- Head control
- Muscel tone

Visual Perception

- Discrimination
- Spatial relations
- Form constancy
- Visual memory
- Figure ground

Motor Coordination

- Grasp
- Dexterity
- Bilateral coordination
- Crossing midline
- Motor planning
- Hand strength

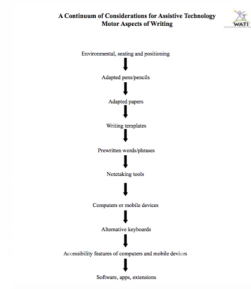
Cognitive

- Attending
- Direction following
- Organization

Social emotional

- Confidence
- Self esteem

AT Continuum for Writing



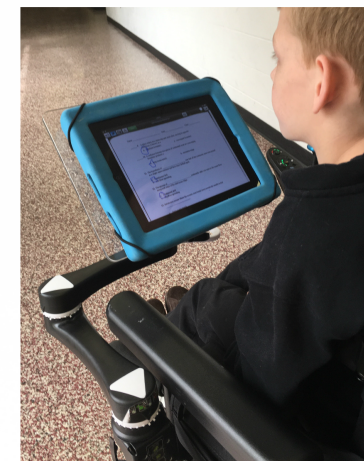
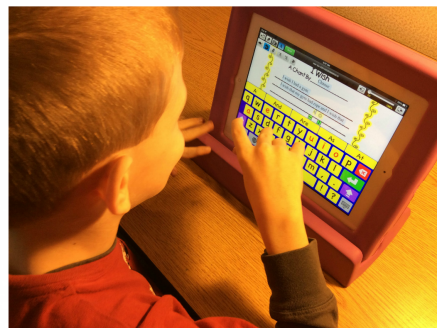
Environmental, seating and positioning

- Position in class
- Multi classrooms
- Seating systems
- Mounting systems
- Non-slip surfaces
- Tilted surfaces
- Wrist supports
- 90/90/90 not
- Task performance positioning

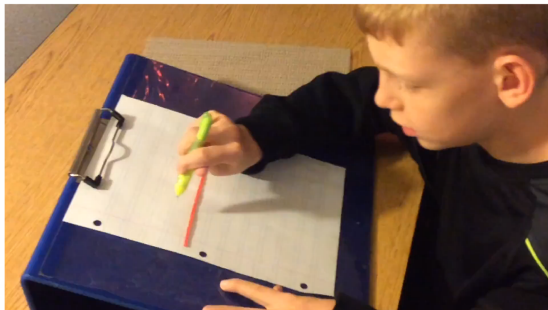


Resources for Positioning

- ATPA: Seating and Positioning
- Karen Karpus, 2000S: The task performance position: Providing seating for accurate access to adaptive technology. Technology Trends, Internet Section Quarterly, 10, 1-3.



video



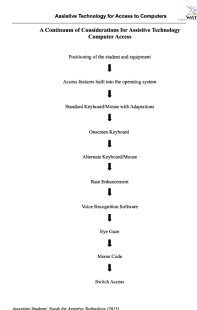
Resources for Positioning

- ATIM: Seating and Positioning
- Karen Kangas, (2000). The task performance position: Providing seating for accurate access to assistive technology. Technology Special, Interest Section Quarterly, 10, 1-3.

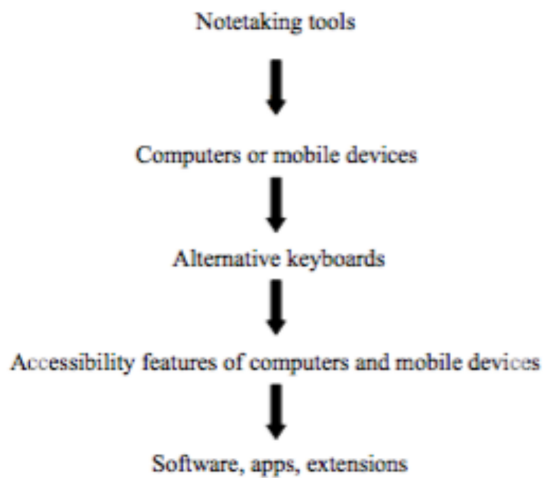
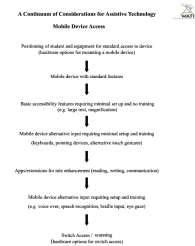
Low Tech Tools for Writing

video

Computer Accessibility



Mobile Device Accessibility



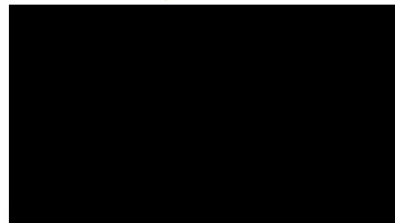
Computer or Mobile Device
no accessories



Computer or Mobile Device

Accessibility features

video



Alternative Keyboards

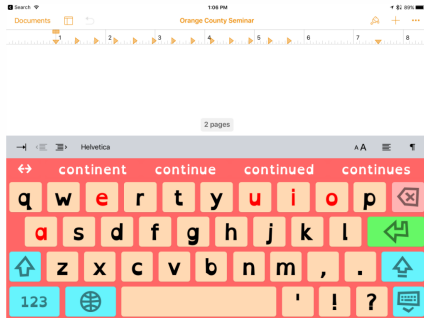
Keedogo Plus
by AssistiveWare



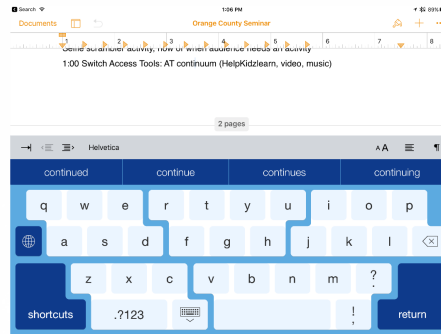
SuperKeys
by Crick



Keedogo Plus by AssistiveWare

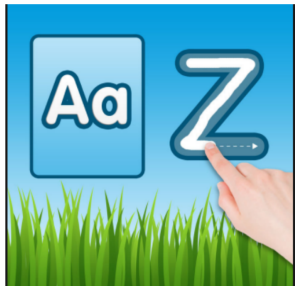


SuperKeys by Crick



Apps & Extension

- Early elementary
 - letter recognition
 - letter/word formation
- Worksheets - annotation
- Editing - text to speech
- Rate enhancement
 - Word prediction
 - Speech recognition



iTrace



Montessori Crosswords



Sock Puppet



Recorder Plus



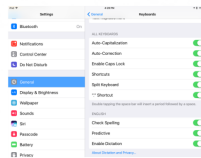
Demo

- Keyboards,
- Letter quiz
- iTrace
- Sock puppet
- Recorder Plus

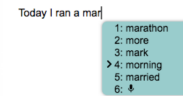
Word Prediction

- A list of words are presented with one or two key entries.
- Assists spelling
- Reduce keystrokes
- Increases vocabulary
- Easy to use with minimal instruction.
- Higher end programs offer phonetic spelling, auditory text to speech feedback, topic dictionaries, predict ahead and pronunciation correction
- Builds confidence and self esteem in writing ability.

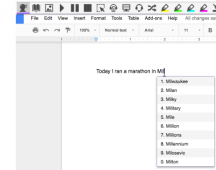
iOS accessibility



Co-writer google extension



Read&Write



Text to Speech (TTS)

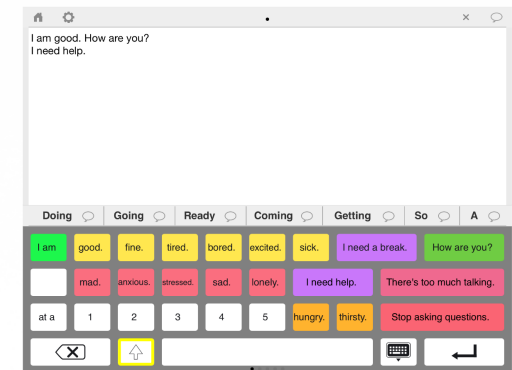
- Auditory feedback of digital text
- TTS as a reading tool improves comprehension, fluency, and accuracy and enhances concentration.
- TTS as a writing tool assists with all the above plus editing and sentence structure.
- Builds independence in writing abilities

TTS

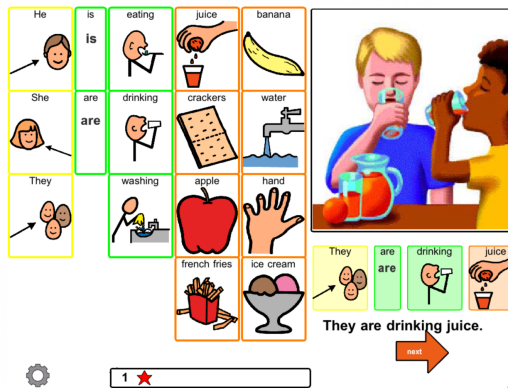
Customized Keyboard

- Picture supported text
- Word and Phrase support
- Color contrast letters, keys, background
- Auditory support

Abilapad



Sentence Key

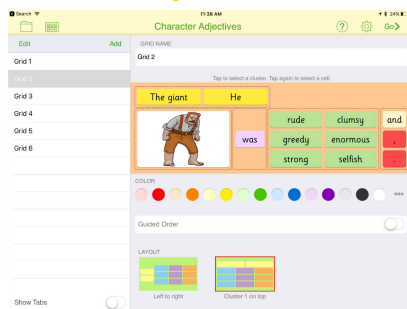


Digital Worksheets

- scan
- store
- annotate
- submit

Mac: opt/esc
ios: speak selection
Snap&Read Universal
Read&Write for google

Clicker by Crick



Scan

- Copy machine
 - Scan to PDF and email
 - Good for large quantity
- Scan to PDF apps
 - CamScanner app
 - Good for 1 on the go
- IOS 11 notes

Store - Organize

- Google drive
- Dropbox

Annotation

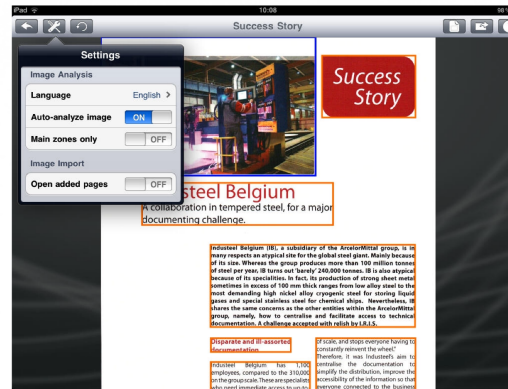
Provide writing support by opening PDF documents such as worksheets and tests in an annotation app to assist students with handwriting difficulties.

Write
Draw
Type
Highlight
Add voice notes

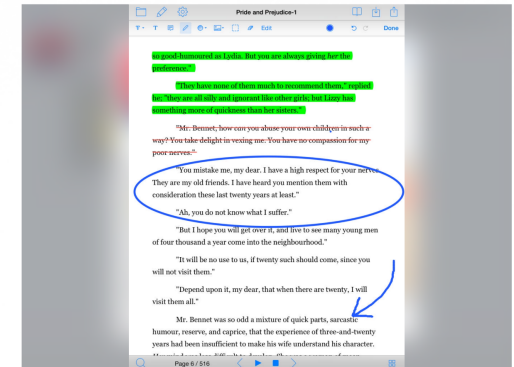
Annotate



Readiris



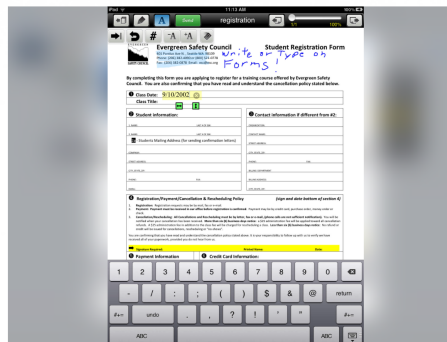
ClaroPDF



Notability



Type on PDF Free



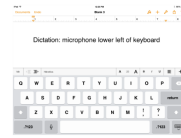
Demo

- Customized keyboards
- Scanned documents
- Google drive
- Cam scanner
- Type on PDF
- Speech to text

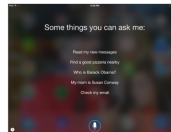
Voice Recognition – Speech to Text

- Consider the AT Continuum
- Requirements
 - Voice Quality & Fluency
 - Cognitive level - organization of thoughts

iOS Dictation



Apple setting
fn key 2x



Cindy's Tips for Voice Recognition

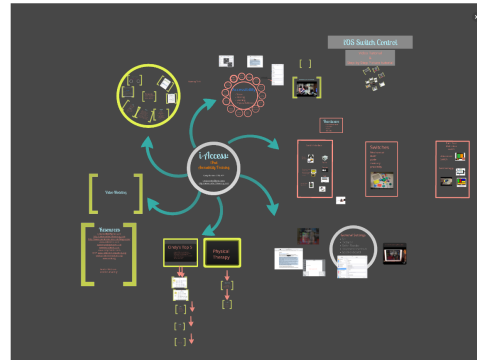
- Teach one thing at a time
- Start with a voice recorder
- VR - question/answer
- Repetitive sentence
- Don't look at screen
- Do not focus on corrections
- Begin by editing for them

Alternatives

Audio Recording
Prezi
Explain Everything
Power Point



Prezi



AT Tools for Reading

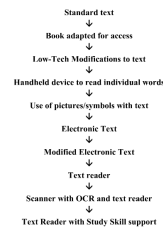
Reading Agenda

- Reading Continuum
- Accessibility features
- TTS
- Scan and Read
- Bookshare

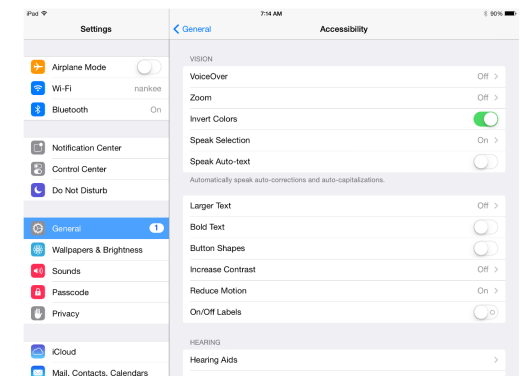
AT Continuum for Reading

A CONTINUUM OF CONSIDERATIONS
FOR ASSISTIVE TECHNOLOGY

For Reading

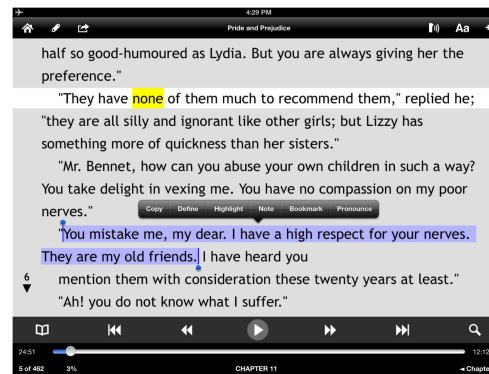
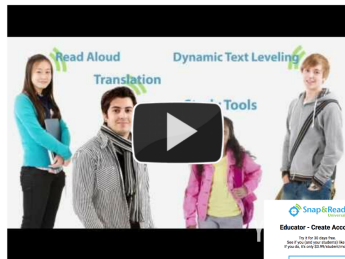


Accessibility Features

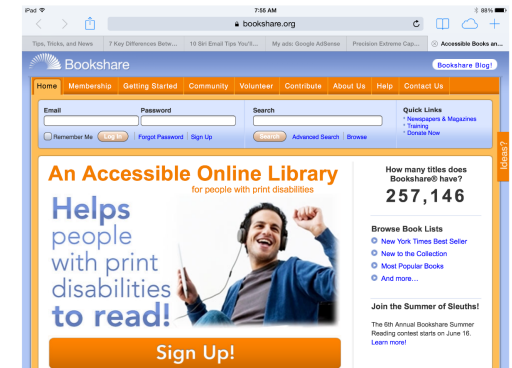


Voice Dream

Snap&Read by Don Johnston



Bookshare



<http://www.Bookshare.org>

- A free accessible online library providing
 - Audio
 - Braille
 - Digital
- Qualifications:
 - Visual Impairment
 - Physical Impairment
 - Learning Disability

Questions?