2016 Texas Focus Conference
June 17-18, 2016
I- Infinite Possibilities with the iPad
Friday 3:30pm-5:00pm

Presented by Dr. Betsy Flener
Assistive Technology Specialist and Low Vision Education Specialist
betsy.flener@grrec.ky.gov

Developed for
Texas School for the Blind & Visually Impaired
Outreach Programs
## Table of Contents

- Infinite Possibilities with the iPad ................................................................. 1
- Creating Tactile Overlays and the iPad: ......................................................... 21
- Tablet Device Accessory Resource List ......................................................... 27
i-Infinite Possibilities with the iPad

Important Accessibility Features

- VoiceOver
- Zoom
- Larger and bold text, contrast
- Speech
- Guided Access
- Audio Descriptions

New to iOS 9

- Touch Accommodations: hold duration, ignore repeat
- Keyboard: key repeat, sticky keys, slow keys
- Switch control with head
- New features in Zoom
- Split View
- Slide Over

Other Important Features

- Siri and Hey Siri
- Keyboard shortcuts

Great Website


VoiceOver Tutorials

- Looktel VoiceOver Tutorial

Important Apps for Students with Low Vision

- Voice Dream Reader
- KNFB Reader
- Web Browser
- Voice Dream Writer
- Doceri
- Splashtop 2 Remote
- Pages
Important Apps

- Notability
- GoWorksheet Maker
- Snap Type
- Cam Scanner
- Pdf to Word
- Built in Camera App

Rationale

Figure 1 Teacher discusses students’ research on iPad with them.

Inclusion

- Ability to use same applications as peers
- Less pullout from regular class
- Social acceptability
- Severely impaired students can communicate with peers and make choices using tactile overlays with AAC apps

Rationale for Tactile Overlays

- Ability to create and customize meaningful activities
- Independent or group activities with other blind/visually impaired students
- Ability to use the iPad tactually since information is lost with only audio input
- Cost effectiveness
- Portability
- Can turn the iPad into different devices
Types of Activities

- Braille activities
- Tactile tracking activities
- Create interactive books
- Adapt commercial interactive books
- Diagrams for scenes, routes, maps, science and geography
- Recreation and leisure
- Create Tactile Symbol communication systems and schedules, etc.

Activities

- Math including talking calculator
- Routines for students with complex needs
- Music and leisure
- Learning environmental and other sounds

Getting Started

![Figure 2 Image of a young boy exploring tactile symbols at a desk](image)

Figure 2 Image of a young boy exploring tactile symbols at a desk
iPad Conductivity

Electrical impulses from the body’s skin
- Moisture
- Temperature
- Long fingernails can be problematic

Plastics
- Screen protectors and page protectors
- Braille laminate
- Polymers and special overlays
- PIAF

Other
- Bumpons
- Texting dots
- Thumbies
- Fabric paint
- Conductivity of Tablet Devices

Conductivity of Tablet Devices

Fabrics
- Stretchy conductive material with various metal coverings
- Various other lightweight fabric with nickel or silver coating
- Foam
- Yarn
- Thread

Metals
- Aluminum foil
- Mylar and other reflective sheets
Tactile Overlay Toolkit

Figure 3 Game controller.

Figure 4 Bumpons

Figure 5 Bottles of various colors of fabric paint.

- Screen Protector
- Braille laminate
- Tactile Cues
  - Game controller
  - Bumpons
  - Fabric Paint
- Pieces of or small objects for tactile symbols
- Different pieces of fabric
- Heavy glue
- Tagboard and tracing paper
- Various songs and sounds downloaded from iTunes
- Textured materials
  - Wooden shapes
  - Sandpaper
  - Smooth and scratchy materials
Application Features

- Simple navigation with stationary icons and locations
- User friendly
- Multiple hot spots
- Large cell locations
- Ability to create, import, and customize own content
- Text to speech and the ability to record
- Inexpensive
- Ability to use one or two overlays for an activity
- Edit lock mode

Applications with Multiple Hotspots

- GoTalk NOW and GoTalk NOW Lite

![GoTalk NOW App](Image Go Talk Now App)

- Scene Speak

![Scene Speak App](Image of Scene Speak App)

- Book Creator

![Book Creator App](Image of Book Creator App)
Creating an Interactive Book

Figure 9 Interactive Book titled I Love Shapes.

Figure 10 Icon of Book Creator app.

Example

Figure 11 A page from the I Love Shapes book showing from top left to bottom right: red square, green triangle, pink circle, orange star shapes with the words, “Can you find the circle?”. 
**2nd Example**

Figure 12 Image of Title Page of Book, "Amy Gets Lost."

Figure 13 Image of page in book, "Amy continued to walk with her cane. She then heard the small brook on her right."

**Interactive Experience Story**

Figure 14 Image of an Experience Story using Go Talk with overlay: 9 images representing parts of a field trip to the zoo.

Figure 15 Image Go Talk Now App
Experience Story with Overlay

Figure 16 Image of Experience Story using Go Talk with overlay: 9 tactile representations of activities within a field trip to the zoo.

Science Diagram

Figure 17 Image of an ant with labeled pointers to various anatomical structures.

Figure 18 Image of an ant with anatomical structures selected on the ipad screen

Figure 19 Image Go Talk Now App
Diagrams for Social Studies

Figure 20 Image of world map using Scene Speak App with a square highlighting "Asia"

Figure 21 Icon for Scene Speak app.

Tactile Overlay

Figure 22 Image of world map with tactile overlay with continent outlines raised.
Customizing Braille and Pre-braille Activities

- GoTalk NOW

  Figure 23 Image of Go Talk Now app

- Sounding Board

  Figure 24 Image of Sounding Board App

- Word Wizard

  Figure 25 Image of Word Wizard App

- Phonics Genius

  Figure 26 Image of Phonics Genius App
Braille and Pre-braille Activities

Word Wizard

Figure 27 Word Wizard icon.

Advantages

- Moveable alphabet
- Navigate easily
- User friendly
- Teacher can import own word lists
- Stationary icons
- Ability to use one overlay
- Two activities: phonics and spelling
Overlays

Figure 28 Image of a tactile overlay made with swell paper with printed alphabet at the bottom of page

Figure 29 Image of tactile overlay with printed and brailled alphabet at the bottom of the page and 6 squares at the top of the page outlined with red puff paint

Figure 30 Image of tactile overlay with printed and brailled alphabet at bottom of page and 21 squares above outlined with red puff paint

Editing Keyboard in Word Wizard

Figure 31 Image of overlay made from swell paper with 4 consonants in blue and 3 vowels in red.

Figure 32 Image of overlay with all but seven braille letters covered with dark material; consonants are blue and vowels are red.
Example 2

Sounding Board

Figure 33 Sounding Board icon.

Figure 34 Image of template in Sounding Board App with 6 possible selections

Matching Textures

Figure 35 Image of template in Sounding Board App with 6 selections and a tactile overlay with six textures.
Adapting an Interactive Book

The Monster at the End of the Book

Figure 36 Image of the face of Semame Street's muppet, Grover

Advantages

• Very interactive
• Use one overlay for the book
• Simple navigation
• Incorporate many textures

The Monster at the End of the Book

Figure 37 Image of two pages of the open book "The Monster at the End of the Book" showing Grover holding the ends of a rope he has tied on the book to prevent the reader from turning the next page.

Overlay

Figure 38 Image of an iPad showing two pages of "The Monster at the End of the Book" with tactile markers on an overlay.
Apps for Blind Students

- KNFB Reader
- Voice Dream
- AccessNote
- Read2Go
- Siri
- Evernote
- Ariadne GPS
- Voice Brief
- Alarmed
- Talking Scientific Calculator

Braille Apps

- Visual Brailer
- Braille Tutor
- Braille Pad Pro
- iBrailier
- Braille Touch

Braille displays and Notetakers

- Phonics Genius
- My First 1000 Words
- Notes
- VoiceOver includes a braille keyboard that supports chords in 6 and 8 dot braille
- VoiceOver works with all built-in apps
- iBooks
- AccessNote
- KNFB Reader
Accessories

Mounting Devices

- iAdapter

Figure 39 Image of iAdapter.

- Loc-line Mounting Kit

Figure 40 Image of Loc-line Mounting Kit.

- Microphone from Ablenet

Figure 41 Image of Microphone from Ablenet
Bluetooth devices (Ablenet)

- Switches and switch interfaces

Figure 42 Ablenet bluetooth switch.

- Regular and adapted keyboards (RJ Cooper)

Figure 43 Image of an adapted keyboard.

Keyguard Accessories

Keyguards

- Lasered Pics
- Logan Technologies
- Beyond Adaptive

Figure 44 Image showing three different sized keyguards.
Figure 45 Image of a keyguard for an iPad

**Accessories (cont.)**

- Bluetooth headphones and earphones
- Bluetooth speakers
- Bluetooth page turner
- Drumsticks
- Microphone
- Piano keyboard
- Invisible game pad
- iKeyboard
- Game controller
- Bump ons
- BigEar

**Resources**

- [www.ablenetinc.com](http://www.ablenetinc.com)
- [www.amdi.net](http://www.amdi.net)
- [www.amazon.com](http://www.amazon.com)
- [www.inclusive.com](http://www.inclusive.com)
- [www.itunes.com](http://www.itunes.com)
- [www.laseredpics.com](http://www.laseredpics.com)
- [www.logantechnolgies.com](http://www.logantechnolgies.com)
- [www.modularhose.com](http://www.modularhose.com)
- [www.rjcooper.com](http://www.rjcooper.com)
Creating Tactile Overlays and the iPad:
The Possibilities are i-Infinite!

Betsy Flener, Ed.D
Assistive Technology Specialist
Low Vision Education Specialist
Green River Regional Educational Cooperative, Kentucky
betsy.flener@grrec.ky.gov

Joni Nygard, MS CCC-SLP
AAC Consultant
Director Speech & Language Product Development
Attainment Company, Inc.
Joni@AttainmentCompany.com
Tactile Overlays and the iPad: How to Make Your iPad an all Inclusive Device

Activities

- Tactile Symbol Communication Systems
- Diagrams for scenes, routes, maps, science
- Make interactive books
- Create pre-braille, braille, and spelling activities
- Matching activities
- Create tracking activities
- Adapt commercially made interactive books
- Adapt some phonics apps
- Adapt talking calculator
- Music and leisure
- Routines with voice output for students with complex needs
- Learning environmental and other sounds

Features of Applications

- Easy to program and edit
- Ability to limit number of overlays
- Large cells or communication locations
- Ability to link pages
- Simple navigation
- Lock edit mode
- Multiple hot spots on one page
- Voice output
- Ability to record own voice, text to speech etc.
- Ability to import sounds, songs
- No scrolling
- Different selections as to how pages are turned
- Control pitch in communication apps
iPad Conductivity

- Electrical impulses from the body
- Plastic coverings
  - Screen Protectors
  - Overlays from TactileTalk
  - Page Protectors
  - Braille laminate
  - Fabric Paint
  - Bump ons
- Metals
  - Aluminum foil
  - Mylar
  - Other metals
- Fabrics
  - Conductive fabric
  - Conductive yarn
  - Conductive foam
  - Metallic thread
- Conductive add-ons
  - Bump ons
  - Thumbies
  - Game controller
  - Joystick
- Other Materials
  - Various fabrics and textures
  - Everyday objects
  - Wooden shapes
  - Art tape
- Materials for adhering items
  - E600 Glue
  - Velcro UltraMate

Apps with multiple hot spots

- GoTalk NOW ($79.99): create systems of communication with tactile symbols, matching activities, make tactile symbol books, make tactile maps, made diagrams, tactile scenes, make tactile schedules
- Scene Speak ($9.99): App that you can import scenes etc. and make tactile maps, diagrams, etc.
- Book Creator ($4.99): create interactive tactile books, make tracking activities
- GoTalk NOW Lite (free): Contains 2 pages including one scene page and one standard page that can be used to create overlays
Apps for creating interactive books

- *Book Creator* ($4.99)
- *GoTalk NOW* (79.99)

Apps for customizing pre-braille and braille activities

- *Sounding Board* (free)
- *Word Wizard* ($4.99): movable alphabet that allows the student to create words that are sounded out, spelling activities etc.
- *Phonics Genius* (free): has over 6000 words grouped in 225 phonetic categories
- *AudioNote* ($4.99): Great app for creating tracking activities
- *GoTalk NOW* (free)

Apps for creating tactile symbol communication pages and books

- *GoTalk NOW* ($79.99)
- *Sounding Board* (free)
- *GoTalk NOW Lite* (free)

Adapting interactive books

- *Don’t Let the Pigeon Run this App* ($5.99): very fun adaptable interactive book, student records answers to questions that are made into a story

Math: *TalkCalc* (free)

Music and Leisure

- *Beamz* (free)
- *Toca Band* (free at present time)
- *Drums XD* (free lite version)

Environmental and other sounds

- *Sound Shaker* (1.99)
- *Sound Touch* (free lite version)
- *I Hear Ewe* (free)
- *Book Creator* ($4.99) Create interactive books with sounds imported from iTunes
Accessories

- Cases that turn the iPad into a communication device
  - www.attainmentcompany.com
  - www.amdi.net
  - www.ablenet.com
  - www.enablingdevices.com
- Drumsticks (www.amazon.com)
- Bump ons (www.laseredpics.com)
- Key guards
  - www.laseredpics.com
  - www.beyondadaptive.com
  - http://www.logan-technologies.co.uk/ipad-access-solutions
- Bluetooth headphones and earphones (www.amazon.com)
- Bluetooth switch interfaces
  - www.ablenetinc.com
  - www.enablingdevices.com
  - http://www.pretorianuk.com
  - www.rjcooper.com
- Bluetooth speakers (www.amazon.com)
- Microphone (www.ablenet.com)
- Bluetooth page turner (www.amazon.com)
- Piano keyboard (www.amazon.com)
- Invisible game pad (www.amazon.com)
Tablet Device Accessory Resource List

Complete Communication Device Accessory
- IAdapter Mounting and Communication Accessory: www.amdi.net
- GoTalk Now Rugged Case: www.attainmentcompany.com
- iAdapted with built-in Bluetooth: www.amdi.net

Protectors for Students who have Difficulty with Saliva Control
- Zaggs’s Invisashield: www.zagg.com
- Waterwear by Tunewear: www.amazon.com

Mounting and Protection Devices:
- Loc-line: www.modularhose.com (great for wheelchairs)
- Body Mounts: www.ablenet.com (great for mounting IPad to arm or leg)
- Mount Me: www.mount-me.com
- Ballistic Tough Jacket: www.goballisticcase.com (great for withstanding drops)
- Adjustable Tablet Holder: www.rjcooper.com (great for wheelchairs)
- iDevice Latitude Mounting System: www.ablenet.com
- Gumdrop Case for Kindle Fire: www.amazon.com
- RJ’s Ultimate IPad Case: www.rjcooper.com
- Hard Candy Squish Skin: www.amazon.com
- GripCase: www.gripcase-usa.com
- Big Grips: www.amazon.com
- Various inexpensive mounts: www.amazon.com
- Speck Products Handy Shell: www.speckproducts.com

Bluetooth Switch Interface (for students who need an alternative way to access a tablet)
- New Blue2 Switch: www.ablenetinc.com
- Blue2 Bluetooth Switch: www.ablenetinc.com
- The Applicator Bluetooth Switch: www.inclusivetlc.com
- RJ Cooper’s Bluetooth Switch Interface: www.rjcooper.com
- Big Button IPad Remote: www.rjcooper.com
Refreshable Braille Displays

- American Printing House for the Blind’s Refreshabraille 18: [www.aph.org](http://www.aph.org)
- Freedom Scientific Focus 40 Blue: [www.freedomscientific.com](http://www.freedomscientific.com)
- Alva BC640 Display: [www.visioncue.com](http://www.visioncue.com)
- Vario Ultra: [www.baumusa.com](http://www.baumusa.com)

Key guards
(for students with poor motor control or use with tactile symbols for blind children)

- Lasered Pics Key guards: [www.laseredpics.com](http://www.laseredpics.com) (great for students who use Sounding Board, Proloquo2go and other communication apps)
- [www.beyondadaptive.com](http://www.beyondadaptive.com)
- Logan Technologies: [www.logantechnologies.co.uk](http://www.logantechnologies.co.uk)

Microphones:

- Mini Microphone: [www.ablenetinc.com](http://www.ablenetinc.com)
- Scosche Freedom’s Bluetooth Microphone for IPad: [www.scosche.com](http://www.scosche.com)

Speakers (great for students who are hard of hearing)

- Rechargeable Speakers: [www.ablenetinc.com](http://www.ablenetinc.com)
- Bone Horn Stand: [www.amazon.com](http://www.amazon.com)
- IAdapter: [www.amdi.com](http://www.amdi.com)
- HDJ Jam: [www.amazon.com](http://www.amazon.com)
- Tablet Speaker: [www.rjcooper.com](http://www.rjcooper.com)

Button Covers/ Disabling Home Button:

- BubCaps: [www.amazon.com](http://www.amazon.com)
- IPad Home Button Protector: [www.rjcooper.com](http://www.rjcooper.com)
- IAdapter: [www.amdi.com](http://www.amdi.com)

Joysticks

- JoyStickIt: [www.amazon.com](http://www.amazon.com)
- Fling Game Controller: [www.amazon.com](http://www.amazon.com)
- Additional Alternative Access
- Adjustable Mouth Stylus: [www.enablingdevices.com](http://www.enablingdevices.com)
- Adjustable Touch Screen Mouth Stylus: [www.enablingdevices.com](http://www.enablingdevices.com)
- IPad Capacitive Head Pointer: [www.rjcooper.com](http://www.rjcooper.com)
- Tbar and Mouth stylus: [www.etsy.com](http://www.etsy.com)
Large Stylus (for students who have difficulty grasping a traditional stylus)

- Alupen Stylus:  [www.amazon.com](http://www.amazon.com)
- Cosmonaut:  [www.amazon.com](http://www.amazon.com)
- Teacher Made Stylus: Made from 3-5 glue sticks, aluminum foil or silver mylar material, rubber bands

Aids for Gripping

- Padlette Grip Handle:  [www.amazon.com](http://www.amazon.com)
- Belkin Grip Sleeve Case for Kindle Fire: [www.amazon.com](http://www.amazon.com)
- Teacher Made Glove for Gripping: Velcro, inexpensive garden gloves with fingers cut out, teacher made Velcro glove

Shield to Control Glare

- Great Shield Ultra Anti-Glare Matte for Kindle Fire:  [www.amazon.com](http://www.amazon.com)
- ViewGuard Anti-Glare Shields for Kindle Fire, Samsung Galaxy, IPad: [www.viewguard.com](http://www.viewguard.com)
- Tactile Symbols (for students who are blind)
- Teacher Made Symbols::different textured materials for backgrounds, parts of real objects, Velcro, strong hobby glue, plastic report covers for mounting

Headphones

- Bone Conductor Headphones:  [www.aftershokz.com](http://www.aftershokz.com)
- Aluratek ABH01F Bluetooth Wireless Over the Ear Headphones for Use with Various Tablets: [www.bhphotovideo.com](http://www.bhphotovideo.com)

Scanners

(used to scan in text that can be read to students with learning disabilities)

- IConvert:  [www.amazon.com](http://www.amazon.com)

Printers

- HP-Photosmart7510 Wireless All in One Printer:  [www.shoppinghp.com](http://www.shoppinghp.com)
- Canon Pixma MX432 Wireless All in One Printer:  [www.canon.com](http://www.canon.com)
- Epson Workforce 845 Wireless All in One Printer:  [www.epson.com](http://www.epson.com)

Keyboards

- RJ Cooper's Big Bluetooth Keyboard:  [www.rjcooper.con](http://www.rjcooper.con)
- Logitech Keyboard Case for IPad:  [www.zagg.com](http://www.zagg.com)
- Zaggkeys Flex for Various Tablets:  [www.zagg.com](http://www.zagg.com)
- Azio Wireless Bluetooth Keyboard:  [www.supermediastore.com](http://www.supermediastore.com)
- Targus Bluetooth Wireless Keyboard for Various Tablets:  [www.amazon.com](http://www.amazon.com)
Texas School for the Blind & Visually Impaired
Outreach Programs

Figure 46 TSBVI logo.

This project is supported by the U.S. Department of Education, Special Education Program (OSEP). Opinions expressed here are the authors and do not necessarily represent the position of the Department of Education.

Figure 47 IDEAs that Work logo and OSEP disclaimer.