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Objectives:

At the end of this session participants will be able to:

- Identify at least 3 instructional strategies that incorporate iPad for social-communication instruction

- Have access to a list of resources to further investigate the use of touch screen devices

- Identify specific apps and describe ways to utilize them in order to meet social and communication needs of their students
What is Communication?

“Communication is the sharing of ideas and information. While many people think of communication primarily in oral or written form, communication is much more. A knowing look or a gentle touch can also communicate a message loud and clear, as can a hard push or an angry slap” (yourdictionary.com).
Why is Communication Important?

Communication is the basis for conveying wants, needs, feelings, expressions, information, ideas, etc. Every individual should have a means to communicate whether it be verbally or nonverbally.

A video example of various modes of communication
Statistics

- According to Desch et al. (2008) almost 5 million children in the USA have some sort of a disability
- That makes 15% of all children!!!
- Out of that 5 million, over 20% have significant communication impairments not related to hearing impairment
- Conditions related to communication challenges:
  - Cerebral palsy,
  - Autism spectrum disorder
  - Traumatic brain injury
  - Genetic syndromes
- Approximately 2.1% of all children need communication aids (National Survey of Children with Special Health Care Needs)
- These needs are unmet for almost 25% of these individuals
Technology solutions are important but need to be implemented through a thoughtful design...
“The term ‘universal design for learning’ means a scientifically valid framework for guiding educational practice that:

(A) provides flexibility in the ways information is presented, in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and

(B) reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students, including students with disabilities and students who are limited English proficient.”  (U.S.C. § 1001)
UDL Framework cont’d

“Universal Design provides equal access to learning, not simply equal access to information.”

(Ohio State University Partnership Grants to Improve the Quality of Higher Education for Students with Disabilities, cf. UDL. A Guide for Teachers and Education Professionals (2005), Council for Exceptional Children)
# Universal Design for Learning Guidelines

## I. Provide Multiple Means of Representation

1. Provide options for perception
   - Options that customize the display of information
   - Options that provide alternatives for auditory information
   - Options that provide alternatives for visual information

2. Provide options for language and symbols
   - Options that define vocabulary and symbols
   - Options that clarify syntax and structure
   - Options for decoding text or mathematical notation
   - Options that promote cross-linguistic understanding
   - Options that illustrate key concepts non-linguistically

3. Provide options for comprehension
   - Options that provide or activate background knowledge
   - Options that highlight critical features, big ideas, and relationships
   - Options that guide information processing
   - Options that support memory and transfer

## II. Provide Multiple Means of Action and Expression

4. Provide options for physical action
   - Options in the mode of physical response
   - Options in the means of navigation
   - Options for accessing tools and assistive technologies

5. Provide options for expressive skills and fluency
   - Options in the media for communication
   - Options in the tools for composition and problem solving
   - Options in the scaffolds for practice and performance

6. Provide options for executive functions
   - Options that guide effective goal-setting
   - Options that support planning and strategy development
   - Options that facilitate managing information and resources
   - Options that enhance capacity for monitoring progress

## III. Provide Multiple Means of Engagement

7. Provide options for recruiting interest
   - Options that increase individual choice and autonomy
   - Options that enhance relevance, value, and authenticity
   - Options that reduce threats and distractions

8. Provide options for sustaining effort and persistence
   - Options that heighten salience of goals and objectives
   - Options that vary levels of challenge and support
   - Options that foster collaboration and communication
   - Options that increase mastery-oriented feedback

9. Provide options for self-regulation
   - Options that guide personal goal-setting and expectations
   - Options that scaffold coping skills and strategies
   - Options that develop self-assessment and reflection

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Why Provide Multiple Means of Representation?
Receptive Language

Receptive language is the comprehension of language - listening and understanding what is communicated. Another way to view it is as the receiving aspect of language (about.com).
Receptive Language Disorders

- Receptive Language Disorder
- Autism
- Learning Disability
- Deafness
Meet C.

A “before” video…
Strategies

- Have student repeat all directions
- Provide ample listening opportunities
- Predict outcomes during reading
- Chunk information into small pieces
- Agendas
- To do lists
- Make frequent eye contact with student
- Restate directions and instructions
- Present information in short, simple sentences
- Present information orally and in writing
- Encourage student to seek clarity if confused
- Provide follow up activities
- Visual schedules
Meet C.

• An “After” video
Multiple means of representation

1) Visual Supports:
   - First Then App
   - Howcast
   - Sosh Lite
   - Stories 2 Learn
   - iTunes U
   - Qwiki

2) Portable Video Modeling:
   - Going Places
   - Conover Company Apps
   - A video example of portable VM
Multiple means of representation cont’d

3) Literacy Activities

- Interactive books:
  - Duck Duck Moose series
  - MeeGenius
  - ITB for Kids
  - First Words
  - Sonic Pics
  - TabTale interactive books
  - Nook Kids
  - Tarheel Reader website
Why Provide Multiple Means of Expression?
Expressive Language Disorders

- Expressive Language Disorder - affects understanding
- Aphasia - loss of ability to produce language
- Autism Spectrum Disorders
- Learning Disability
- Dysnomia - deficit involving word retrieval
- Speech Disorders - cluttering, stuttering, dysarthria, distortions, omissions, substitutions, additions, etc.
Strategies

- Alternative assessments that do not rely exclusively on language (e.g., drawings, paintings, music compositions, dance pieces).
- Prepare questions prior to class
- Small group discussions
- Scaffold specific skills
- One on one work
- Make questions concise and clear
- Allow wait time for responses
- Provide visual cues
- Picture schedules for tasks
- Write tasks down
Multiple means of expression

• A video clip from http://www.youtube.com/watch?v=FGU1ELjS7bQ&feature=related (minutes: 19:46 - 23:30)
• SplashTop Presenter App (a video example of a high school classroom application)
• Speak it App
• Sign Language App
• Communication Apps List
<table>
<thead>
<tr>
<th>Name</th>
<th>Price</th>
<th>Device</th>
<th>Description</th>
<th>Pros</th>
<th>Cons</th>
<th>Picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>iCommunicate by Grembe Inc.</td>
<td>$49.99</td>
<td>Universal*</td>
<td>Create pictures, flashcards, storyboards, routines, visual schedules and record custom audio in any language. Includes task completion and audio visual prompting.</td>
<td>- Record your own audio&lt;br&gt;- Text-to-Speech&lt;br&gt;- 20 voice options&lt;br&gt;- Use your own pictures&lt;br&gt;- 10,000 SymbolStix pics&lt;br&gt;- Ability to lock app</td>
<td>- Fairly expensive</td>
<td></td>
</tr>
<tr>
<td>MyTalkTools Mobile by 2nd Half Enterprises LLC</td>
<td>$49.99</td>
<td>Universal*</td>
<td>Allows users to select pics from their own life as icons. Symbols appear on the screen and the user selects what they want to express App repeats the word aloud</td>
<td>- Familiar/Personal icons&lt;br&gt;- Simple to use&lt;br&gt;- Availability</td>
<td>- Fairly expensive&lt;br&gt;- May require external speakers</td>
<td><img src="https://example.com/mytalk-tools.png" alt="MyTalk" /></td>
</tr>
<tr>
<td>iComm by Bappz</td>
<td>Free - $7.99</td>
<td>iPhone</td>
<td>Custom built, easy to use communication system that uses pictures and words, both written and spoken.</td>
<td>- Affordable&lt;br&gt;- Customizable/Edit features&lt;br&gt;- Easy to use</td>
<td>- Basic fundamental communication only</td>
<td><img src="https://example.com/i-comm.png" alt="iComm" /></td>
</tr>
<tr>
<td>Proloquo2Go by AssistiveWare</td>
<td>$189.00</td>
<td>Universal*</td>
<td>Customizable colors, voices, rows, and columns. Basic Communication and Core Word (two research-based vocabulary organizations)</td>
<td>- Cheaper than other communication devices&lt;br&gt;- Accessible,&lt;br&gt;- Text-based and symbols-based&lt;br&gt;- Variety of voices</td>
<td>- Not compatible with android&lt;br&gt;- No free trial version&lt;br&gt;- Expensive for an app</td>
<td><img src="https://example.com/proloquo2go.png" alt="Proloquo2Go" /></td>
</tr>
<tr>
<td>Grid Player by Sensory Software International</td>
<td>Free</td>
<td>iPhone, iPad</td>
<td>User can use a keyboard to type to talk or choose icons to create a sentence.</td>
<td>- Free Customizable grids online&lt;br&gt;- Over 12,000 widget symbols&lt;br&gt;- Text prediction&lt;br&gt;- Large icons</td>
<td>- Designed for use with the grid 2</td>
<td><img src="https://example.com/grid-player.png" alt="GridPlayer" /></td>
</tr>
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<tr>
<td>TapSpeak Choice</td>
<td>$74.99 / $149.99</td>
<td>iPad</td>
<td>High-tech aided form of communication involving simple two-button communication boards</td>
<td>- Uses all forms of touch</td>
<td>- Expensive for an app of this type</td>
<td></td>
</tr>
<tr>
<td>by Ted Conley</td>
<td>$149.99</td>
<td></td>
<td></td>
<td>- 56 icons on one page</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TapToTalk by Assistyx LLC</td>
<td>Free / Home $179.95 / Pro: $249.95 / Agency: $429.95</td>
<td>Universal* Android Kindle Nook PC Smartboard Mac Nintendo Dsi</td>
<td>Tap to Talk is easy to use-just tap a picture and it will speak. The user can get the free version or purchase a more advanced version of the app. To purchase an advanced version, user must go online to TapToTalk Designer to customize.</td>
<td>- Can be used on many products</td>
<td>- Free version is not customizable, and the user cannot question or comment. - If a designer version is purchased it is expensive.</td>
<td></td>
</tr>
<tr>
<td>Voice4u by Spectrum Visions</td>
<td>$49.99</td>
<td>Universal* Android Kindle Fire NOOK Tablet</td>
<td>Express feelings, thoughts, actions, and needs. Delivers quick and easy communication on the go.</td>
<td>- Create icons and categories</td>
<td>- Preloaded icons are aliens</td>
<td></td>
</tr>
<tr>
<td>iConverse by Xcellent Creations, Inc</td>
<td>$9.99</td>
<td>Universal*</td>
<td>When a specific icon is touched, the application represents what has been touched through visual, textual, and auditory representation.</td>
<td>- Affordable</td>
<td>- Cannot organize the buttons</td>
<td></td>
</tr>
<tr>
<td>Alexicom AAC by Alexicom Tech LLC</td>
<td>Free</td>
<td>Universal* Android</td>
<td>User can create and edit pages. App comes with 32 demo pages. Scanning methods include: direct touch, sequential, and auditor.</td>
<td>- 29 languages</td>
<td>- Can get expensive with other versions</td>
<td></td>
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Why Provide Multiple Means of Engagement?
Engagement is one of the best predictors of positive outcomes for children with ASD. (Iovannone, Dunlap, Huber, & Kincaid, 2003; NRC, 2001)

More is better than less . . . (Woods & Wetherby, 2003; NRC, 2001)
Multiple means of Engagement

1) Tapping on interests:
   - Monkey Preschool Lunchbox
   - Finger Drums
   - Piano Free
   - Photo Booth

2) Tapping on motivation:
   - Sonic pics
   - Talking Tom
   - Sound touch
   - Text Now or Messages
Resources:

Websites:
- www.bestappsite.com
- http://techinspecialed.com/
- http://teachwithyouripad.wikispaces.com/Math+Apps#Basic%20Math

Videos:
- http://www.youtube.com/watch?v=FGU1ELjS7bQ&feature=related
- http://www.youtube.com/watch?v=XfRSENIPaFc&feature=related
- http://www.youtube.com/watch?v=vomkNSluWW4&feature=related
- http://www.youtube.com/watch?v=BU-7J7rSgQg&feature=related
- http://www.youtube.com/watch?v=W-eWynWMx6c&feature=related
- http://www.youtube.com/watch?v=yvvT_yrImHQ

- Other:
  - Autism Apps app from iTunes