Assistive Technology to Support Individuals with Intellectual Disabilities in Employment

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October 23, 2014
Purpose of Workshop

- The purpose of this workshop is to provide participants with strategies for identifying appropriate assistive technology (AT) supports for individuals with intellectual disabilities in employment settings.
- Participants will be provided with strategies for determining appropriate AT based on the needs of the employee, the employment setting, and requirements of the job.
- Participants will also be given an overview of various low to high tech AT supports that can be used to support and promote independence across a variety of jobs and skill sets.
What is Assistive Technology

- The Federal Definition of 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 functional capabilities of an individual with a disability” (Technology-related Assistance to Individuals with Disabilities Act, 1988).
Assistive Technology Devices

- AT can fall between Low-tech, Mid-Tech, & High-Tech
- Low-Tech, Mid-Tech, & High-Tech are categories that refer to the *degree of technology* used in the device/system and the *amount of training* the learner requires to use it.

**In most cases, the best solution is the simplest solution.**
Considerations for Selecting AT

When Selecting AT, it is important to consider:

- Supported Employee
- Environment
- Task
- Tools

SETT framework was developed by Joy Zabala [www.joyzabala.com](http://www.joyzabala.com)
Low Tech Examples

- Checklists
- Line Drawings/Pictures/Visual Supports
- Visual Timers
- Color Coding
- Templates
- Pencil Grips/Enlarged Writing Instruments
- Highlighters/Highlighting Tape
- Slant Boards/Book Holders
- Velcro
- Non-Slip Materials such as Dycem
- Handheld Magnifiers
Mid-Tech Examples

• Digital Recorders

• Franklin Dictionary/Thesaurus

• Portable Word-Processors

• Reading Pens and Calculators

• Simple AAC Devices

• Switches/Environmental Control
Other Assistive Devices to Support Employment

- Visual and talking timers
- Picture/text messages on cell phones
- Built in calendar functions on cell phones
- Watchminder Vibrating alarm watch
- Mini recorder to record assigned duties
High-Tech Software/Device Examples

- **Mobile Devices/Tablets/iPads**
  - Hundreds of apps

- **Word Prediction**
  - Co-Writer, Read and Write Gold,

- **Text-to-Speech**
  - Kurzweil, Don Johnston SOLO

- **Screen Magnification Software**
  - ZoomText, Magic, Windows, Mac

- **Screen Readers**
  - JAWS, NVDA, Voiceover,

- **Speech Recognition Software**
  - Dragon Naturally Speaking,

- **Expanded Keyboards**
  - Big Keys
Sample Checklist with Embedded Time Management

OPEN GYM YOUTH VOLLEYBALL

To Be Completed by 4:00
- _____ Wearing a working watch?
- _____ Waiver(s), pen, envelope at table?
- _____ Have key to work closet?
- _____ Check side doors to see if they are locked?
- _____ Clocked in?

To Be Completed by 5:00
- _____ Give participants 5 minute warning at 4:55?
- _____ Have money tallied on sheet? (R)? (NR)? (Grand total)?
- _____ Money counted?
- _____ Waiver(s) & money sealed in envelope?
- _____ Sign, date, and write “Open Gym Youth Volleyball”?
- _____ Remind participants to collect ID’s?

**During slower times, facility attendant should initiate the completion of additional tasks**

WRITE DOWN AND COMPLETE ADDITIONAL JOB RESPONSIBILITIES TO BE COMPLETED BY 6:00
- _____ Clock out?
# Smart Device Apps

<table>
<thead>
<tr>
<th>Native Apps</th>
<th>Additional Apps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calendar</td>
<td>Pocket Informant</td>
</tr>
<tr>
<td>Clock</td>
<td>Awesome Note</td>
</tr>
<tr>
<td>Alarms</td>
<td>Appigo ToDo</td>
</tr>
<tr>
<td>Timer</td>
<td>Breathe 2 Relax</td>
</tr>
<tr>
<td>Stopwatch</td>
<td>Speak it!</td>
</tr>
<tr>
<td>Contacts</td>
<td>QuickOffice</td>
</tr>
<tr>
<td>Notes</td>
<td>Evernote</td>
</tr>
<tr>
<td>Maps</td>
<td>Pocket Money or Expense</td>
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<tr>
<td>iPod</td>
<td>1Password</td>
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<tr>
<td>Photos</td>
<td>SimpleMind+</td>
</tr>
<tr>
<td>Safari</td>
<td></td>
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</tbody>
</table>
Clock App (World Clock)

Used to set clocks for different cities and/or time zones
Clock App (Alarm)

Used to set alarms for things such as taking medications, getting up in the morning, checking the baby’s diapers, feeding the dogs, etc.
Clock App (Stopwatch)

Used to help establish how long certain tasks take to complete, such as: feeding the dogs, cleaning the kitchen, etc.
Clock App (Timer)

Used as a countdown timer; for instance, set the timer for 40 minutes so you don’t overdo it when cleaning
### Calendar App (List)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>Physics</td>
</tr>
<tr>
<td>8:50 AM</td>
<td>Parker 249</td>
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<tr>
<td>10:00 AM</td>
<td>Art</td>
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<tr>
<td>10:50 AM</td>
<td>Biggn 5</td>
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<tr>
<td>11:00 AM</td>
<td>Work</td>
</tr>
<tr>
<td>1:00 PM</td>
<td>Center</td>
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<tr>
<td>1:00 PM</td>
<td>Physics Lab</td>
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<tr>
<td>2:50 PM</td>
<td>Parker 112</td>
</tr>
<tr>
<td>9:00 PM</td>
<td>Lock church</td>
</tr>
<tr>
<td>9:05 PM</td>
<td>Church</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>Sociology</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>Thach 112</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>Work</td>
</tr>
</tbody>
</table>

- **Today**
- **Calendars**
- **Inbox**
iPad Calendar App (Day)

Work
Home Depot 1234 Auburn, Auburn AL 36849
Friday, Sep 19, 2014 8 AM to 12 PM
repeats weekly

Calendar Alert 1 hour before

Notes
Remember Fridays are half days! Bring a snack!
# iPad Calendar App (Week)

<table>
<thead>
<tr>
<th>SEP</th>
<th>22</th>
<th>23</th>
<th>24</th>
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<tbody>
<tr>
<td></td>
<td>Monday</td>
<td>Tuesday</td>
<td>Wednesday</td>
</tr>
<tr>
<td>8 AM</td>
<td>Physics Parker 249</td>
<td>Physics Parker 249</td>
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<td>9 AM</td>
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<td>Sociology Thach 112</td>
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<td>11 AM</td>
<td>Work Center</td>
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<td>Noon</td>
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<tr>
<td>1 PM</td>
<td>Physics Lab Parker 112</td>
<td>World English Haley 2224</td>
<td>Lunch Chipotle</td>
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</tbody>
</table>
Calendar App (Month)
Calendar App (Add Event)

- Title
- Location
- All-day: Off
- Starts: Sep 19, 2014 12:00 PM
- Ends: 1:00 PM
- Repeat: Never
- Calendar: Select
Calendar App (Calendars)

- Calendar

ICLOUD

- Home
- Work
- Birthdays!
- School
- Clubs and Activities
- Calendar
- Fun stuff!
Speak it!

Used to convert text to speech. Text can be copied and pasted from another program or entered into Speak it!
Dragon Dictate (Record)

Used to convert recorded speech to text
This is a test of dragon dictation
This is a test of dragon dictation.
Use of Picture & Video Supports

- **Video Modeling**: Review video examples before engaging in tasks at work.

- **Video Prompting**: Watch short video segments of steps needed to complete task while performing task (watch step- go do; watch next step- go do). This typically requires the use of portable devices.

- **Continuous Video Modeling**: Continuous Video Modeling (CVM) is similar to a procedure called Simultaneous Video Modeling where a video is played while the individual is expected to “follow along” to model the behaviors. With SVM the video is only presented once whereby in CVM the video is played on a loop (Mechling, Ayres, Purrazella, & Purrazzalla, in press). The continuous presentation of the video model allows individuals to work “hands-free” and to look at the video as needed and refer back to specific steps while completing the task.

- **Video Feedback**: Videotape employee as they engage in tasks and have them evaluate performance when watching video.
Use of Mobile Devices and Associated Apps that Support Picture & Video

• Several apps can support video-based instruction using either video modeling or video prompting. Some include the following:
  • Picture Scheduler
  • Keynote
  • Video Scheduler
  • Storykit
  • Go Talk Now

• All of the above also provide picture and auditory prompts. Additional apps that support picture/auditory prompts include:
  • Pictello
  • iPrompts
  • First-Then
Sample Picture/Auditory Sequence Using Picture Scheduler
Following Schedule
Demonstration of How Built-In Video Features of iPad Can be Used to Support Employment

- Example: Individual with ID had a job where they had to deliver mail throughout the university.
- Video models of the task (using a peer model) with video feedback (videotaped individuals performance on iPad) and measured performance
Steps App

• Example: Use Steps App on the iPad to present picture prompting sequences to teach vocational tasks to individuals with ID.
• Sequences has built-in decision points
• Screen has universally-designed features to allow learners to select their own supports
iPrompts
by handholdadaptive

Video

- Website: [http://www.handholdadaptive.com](http://www.handholdadaptive.com)
- Cost = $49.99
“First-Then was designed for individuals with communication needs, developmental delays, autism spectrum disorders or anyone who would benefit from a structured environment.”

-GoodKarma Apps

It can be used for daily events, routines, specific steps in an activity and transitioning between activities.
Using the Schedule

• There are three formats for displaying the schedule.

Full Mode  Split Mode  List Mode
How to use checklists

• First-Then allows users to apply a checklist feature to check off an activity when completed. This has to be activated through the settings menu on your device.

Scroll down to First Then  

Switch checklist to “on”
Checklists

• Once an activity is complete, simply click the green checkmark.
App for Note-taking and Annotation

- Skitch by Evernote- Free
- Description: This app allows users to take a picture and add text or annotations. This can be incredibly useful for providing “on-the-spot” visual supports.
VoCal Voice Reminder

- VoCal Voice Reminder by Gzero ltd.: Cost $.99

- Description: Is a voice calendar and sends alerts with recorded messages. Can be used for reminders and as ‘to-do’ lists. Has echo feature that will continue giving prompts until completed.

- 1. Tap the record icon, record a reminder using your voice ✔
- 2. Set time/date for the reminder to alert you ✔
- 3. Tap save and close the app ✔
Covert Audio Coaching (CAC) or Bug-in-Ear (BIE) Technology

• Covert audio coaching involves a teacher, paraprofessional, job coach, supervisor, or another individual delivering immediate feedback to a person performing a skill via a two-way radio or walkie-talkie and an earbud speaker (Bennet, 2013).
• Feedback often includes prompting, praise statements, and/or corrective feedback to increase the likelihood of correct performance.
• Increasing the distance between job coach and employee may assist with fading dependency on adult support.
Questions?