Assistive Technology Resources for Children and Adults with Disabilities

DECEMBER, 2011 / JANUARY, 2012 Volume 30 - Number 5 Solution

ORGANIZATION TOOLBOX: TOOLS AND STRATEGIES FOR DEVELOPING ORGANIZATION SKILLS (PART TWO OF A TWO-PART SERIES)

MAKING EVIDENCE-BASED DECISIONS ABOUT SPEECH GENERATING DEVICES AND APPS

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INCREASING SOCIALIZATION AND COMMUNICATION USING THE PRINCIPLES AND PROCEDURES OF APPLIED BEHAVIOR ANALYSIS (ABA): MOVING BEYOND DISCRETE TRIAL TEACHING (DTT)

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Using QR Codes in Education -Utilizing the latest technologies to bring your print materials alive!

60 MINUTES

THURSDAY, DECEMBER 8, 2011

4:00 pm - 5:00 pm Central Standard Time

Registration fee \$35 (No cancellations, no refunds) Wonder what those square bar code looking blocks we see in magazines, newspapers, etc. are? They're QR codes!

In this Webinar, participatints will learn how to use QR codes to create adapted access to text in a document, differentiate your materials, add support for understanding and more. Examples including using QR codes to create scavenger hunts, information tags and much, much more will be shared! From the free programs to create them, to the free readers for iPads, iPods, smart phones and even a computer using your web cam, learn how to create, print and utilize QR Codes to make your print materials "come

alive". **PRESENTER**: Dan Herlihy.

Switch Access on the iPad

90 MINUTES MONDAY, JANUARY 23, 2012

10:00 am - 11:30 am Central Standard Time

MONDAY, JANUARY 23, 2012 1:00 pm - 2:30 pm Central Standard Time

Registration fee \$55 (No cancellations, no refunds)

There are thousands of apps at the iTunes App store, but when it comes to switch access, where do you start? Find out which apps are switch accessible, learn how and where in the iPad Settings and the app itself to configure switch settings, as well as what switch arrays and switches can be used with each app. A detailed resource handout provided on everything covered. **PRESENTER**: Dan Herlihy.

Jumpstart Your iPad Experience with Free Apps!

90 MINUTES

MONDAY, JANUARY 30, 2012 10:00 am - 11:30 am Central Standard Time

MONDAY, JANUARY 30, 2012 1:00 pm - 2:30 pm Central Standard Time

Registration fee \$55 (No cancellations, no refunds)

This Webinar will cover free apps for the iPad/iPod. Apps for math, music, note taking, art, science, ebooks, reading, writing, photography and more will be covered. Just because they are free doesn't mean cheap! It may be a while before you buy your first app after making your way through this listing. We will also cover creating folders on your iPad for organization and how to export activities

created on the devices. Listing and description of over 80 free apps provided.



DAN HERLIHY is an Assistive Technology/Technology Resource Specialist, Connective Technology Solutions, Inc., Hoosick, NY,

The iPod Touch and iPad as Assistive Technology

90 MINUTES THURSDAY, DECEMBER 15, 2011 10:00 am - 11:30 am Central Standard Time THURSDAY, DECEMBER 22, 2011 12:30 pm - 2:00 pm Central Standard Time Registration fee \$55 (No cancellations, no refunds)

In this 90-minute Webinar, we will explore some of the ways that the iPod touch/iPad are being used as assistive technology devices. We will cover the benefits and limitations of each device, as well as their differences. We will also discuss some of the built-in accessibility features of the devices. We will then provide participants with demonstrations of various apps and discuss how they are being used. The participants will be provided with information on various apps, resources and third party accessories.

PRESENTER: Mark Coppin.

iDevices the Next Level 90 MINUTES

THURSDAY, DECEMBER 15, 2011 1:00 pm - 2:30 pm Central Standard Time

THURSDAY, DECEMBER 22, 2011 3:00 pm - 4:30 pm Central Standard Time Registration fee \$55 (No cancellations, no refunds)

In this 90-minute Webinar, we will explore some of the advanced features of your iPod touch, iPhone and, more specifically, your iPad. During this session we explore:

- Accessibility features
 - App and folder manage-
- ment

- Battery management

Setting up printing

App settings

Multitasking

Plus we will share several tips and tricks to help you better utilize your devices. We will also cover several resources where you can find more information on how to use these devices as assistive technology.



MARK COPPIN, B.S., is an Apple Distinguished Educator and the Director of Assistive Technology, Anne Carlsen Center for Children, Jamestown, ND.

Creative Teaching Ideas + Free & Low-Cost POWER Tools = Efficient Structured Teaching: The POWER of T.H.E. P.A.C.T.

90 MINUTES

WEDNESDAY, FEBRUARY 22, 2012 3:00 pm - 4:30 pm Central Standard Time

Registration fee \$55 (No cancellations, no refunds)

Particpants will walk away with creative teaching ideas and a resource library of matching AT supports to give you the "POWER" to target essential language skill areas when providing specialized instruction to make sense of the countless resources available to you. Learn how to (1) use an app for more than one language task; (2) set up a simple Web 2.0 tool to meet multiple learning objectives; (3) create activities in minutes using a comprehensive set of 330 scaffolded language-based instructional templates; and (4) set up simple, reusable low tech AT solutions using inexpensive office supplies - all while supporting standards-based instruction in a practical, 4-step structured teaching approach called T.H.E. P.A.C.T. Systemize your instruction and AT tool chest so that you can direct your focus on scaffolded teaching to build solid comprehension and improve meaningful communication when teaching any content.



PHYL T. MACOMBER, President of Make A Difference. Inc. and Practical Assistive Technology Solutions and Author of adapted curriculum framework called T.H.E. P.A.C.T.™

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contents december, 2011 / january, 2012

volume 30 | number 5

- 6 Organization Toolbox: Tools and Strategies for Developing Organization Skills (Part two of a two-part series) By Tara Bruss
- 10 Making Evidence-Based Decisions about Speech Generating Devices and Apps By Libby Rush and Celeste Helling
- 13 Assistive Technology Apps for High School and Postsecondary Students with High Incidence Disabilities

By James R. Stachowiak

17 Creating and Customizing Early Literacy Supports Using Boardmaker Studio

By Lisa Kehoe and Maureen Donnelly

21 Increasing Socialization and Communication Using the Principles and Procedures of Applied Behavior Analysis (ABA): Moving Beyond Discrete Trial Teaching (DTT)

> By Karen Hamilton Barineau and Holly Steinkamp

27 Assistive Technology Spotlight

EDITORIAL CORRECTION

Due to an editorial error in the October/November, 2011 edition, an incorrect table was published in the article, APPsolute Fit: Selecting the Right Mobile Device Apps, by Madalaine Pugliese (page 17). The corrected table (Stage Seven - Apps to Consider) appears below. We apologize for this error and any inconvenience this may have caused.

STAGE SE	/EN - APPS TO	CONS	IDER
Title	Publisher	Cost	Rationale/Description
Dr. Peet's Writ- ing Buddy	Dr. Peet's Software	\$1.99	Speech to text support for the writing process. Font size and color are customizable. Informa- tion written can be used to text or e-mail a contact in the contact list. Videos and maps can also be searched by accessing an icon that will load the appropriate Google. Talkback settings can be customized to read letter, word, sentence or all the above. Common mispronunciations or abbreviations can be customized to be read in a particular way.
Evernote	Evernote	free	Organize your notes and ideas. Capture in one place but access from other places and on other devices.
My Photo Story	CLIC360	1.99	Create your own story using pictures and text in a simple comic book type layout.
Sentence Builder	Northwest Kine- matics	\$3.99	Students choose the correct words to build a grammatically correct sentence about a picture. The user's progress is tracked individually and each user has a stats page.
Sentence- Builder	Mobile Education Tools	\$3.99	Help learner generate grammatically correct sentences via a selection wheel/spinner. Helps improve grammar as well as sentence structure by providing lists of words to select from and gentle feedback where he makes a mistake.
Speak It	Future Apps Inc.	\$1.99	The user can enter text via the on-screen keyboard or cut and paste information from another document. Accessing the "speak it" button with a single tap will read the document. An audio file can be generated and e-mailed. Documents can be saved within Speaklt. Spelling errors are not prompted or corrected. Voices can be changed and purchased through iTunes. Font size, voice volume, and voice speed can all be customized.
Story Builder	Mobile Education Tools	\$3.99	Helps students improve paragraph formation, improve integration of ideas, and improve higher-level abstractions by inference. Audio clips promote improved auditory processing.
Story Patch	Haywoodsoft LLC	\$2.99	Story starters are available if needed, or students can write their own story. There ares over 800 Illustartions. They can be customized, and photos can import. There is also a tutorial and stories can be read and shared by email.
Story Wheel	EverAge	Free	Students record a story by spinning a wheel to get a picture, and then narrate a portion of the picture. Students can then listen to their story with animated pictures.
Type-O HD	2nd Guess	14.99	Teaches writing & spelling skills. Audio feedback, word prediction, spell check. Writing can be e-mailed or saved on clipboard for opening elsewhere.
Writing Prompts	21x21 Media, Inc	\$1.99	Writing prompt generator with scene elements, sketches, colors, genres and writing types

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 Evaluation of the Effects of the Intel[®] Reader on Improving the Reading Performance of Adolescents with Learning Disabilities, SRI International, November, 2010.

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TOOLS AND STRATEGIES FOR DEVELOPING ORGANIZATION SKILLS

Part Two of the "Organization Toolbox Series" continues with the discussion of various tools and strategies for organization. We will discuss these tools and strategies within the context of their organization category. As a summary, here are the categories and definitions:

ENVIRONMENTAL/SPATIAL: the positioning of physical surroundings; the location and placement of objects.

TASK PLANNING/EXECUTING: planning and executing steps to accomplish clearly defined goals (examples: doing laundry, cleaning the bedroom, completing homework).

EVENTS PLANNING/EXECUTING: planning and executing an event held on a set date and time involving coordination of people, places and things.

TIME MANAGEMENT: planning and executing a schedule and maintaining timeliness.

INFORMATION: storing and saving information gathered (such as data, written formats or audio formats) in locations easily retrievable.

WRITING COMPOSITION: arranging thoughts and gathered research into sequential, coherent written work.

Information for products referred to in this article can be found in Figure 1. This listing of products does not indicate endorsement. Also keep in mind that this list is not exhaustive and, over time, technologies will change as some are discontinued and new features and/or tools are developed. We will further discuss these various tools and incorporate examples of strategies to use with them.



TARA BRUSS is an Assistive Technology Specialist with the PACER Simon Technology Center (STC) and is coordinator of the STC Lending Library. She has a degree in psychology and a background working with individuals with disabilities in their daily life settings. Tara provides a variety of services and assistance to individuals, parents, and professionals to increase awareness and capacity for assistive technology including the lending library, consultations, trainings, in-services, workshops, and webinars. She can be reached at tara.bruss@pacer.org

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In the first part of this series, we discussed tools and strategies within the environmental/ spatial category. In part two, we will discuss tools and strategies for the remaining five categories, beginning with the task planning/executing category.

TASK PLANNING AND EXECUTING

Task planning and executing can be further broken down into to-do lists and planner/ calendars. These can be traditional paper or can be electronic. From software programs to Internet applications to applications (apps) for the iPod touch/iPad/iPhone, Blackberries and Android smartphones, electronic programs can be quite robust in the features they provide, such as alarms, notifications, reminders, sharing capabilities, editing features and ways to organize information. When choosing an app or a program for this purpose, be sure to consider the following features: if a schedule view is available and what the interface looks like, if alarms or notifications are provided and how they work, if tasks can be broken down into steps and if notes can be added to tasks.

When planning for the use of these tools, there are important elements to consider. How the agenda or the to-do list is viewed is essential for the completion of tasks. For example, viewing the calendar according to a strict month view can have a disjointed effect. If the current day is at the end of the month, the page would have to be turned to view the next day. In this case, events and tasks may not be prepared for appropriately. If the tool you are using allows for a refreshable two- or three-week display, the concept of time would be contiguous.

How an individual organizes their to-do lists may also have an effect on their efficiency. For example, an individual may organize their to-do list by sequence, subject/task similarity or priority. Breaking down larger tasks into smaller components can be beneficial in managing time, as well as making sure that every component is completed. For some individuals, it may take some guidance to brainstorm and identify smaller components of a task. To do so, the individual can visualize the steps they would take to accomplish a task. For example, reading an assigned chapter may seem like a simple task at first. However, visualizing this task may involve: finding the location of the book and study materials, opening

the book and finding the appropriate chapter, glancing over the titles and subtitles for an overview of the reading section, reading the section, highlighting important information, jotting down notes and questions, complete reading the section, summarizing the section and reviewing.

It is also important to take time to interpret appointments, due dates, activities or events into action plans. For example, attending a birthday party may require preliminary planning, such as buying a birthday gift and card, wrapping the gift and signing the card, planning an outfit to wear, finding driving directions and planning for travel time. Each of these pieces may be scheduled individually on the calendar to ensure their completion.

There are a variety of non-traditional tools that can be used for task planning and executing. The Smartpen and a digital voice recorder can assist with recording instructions, to-do lists and notes. The Smartpen is unique because it adds a visual component to the navigation of auditory notes. Visual cues can also be helpful in providing stepby-step instructions or guides to completing a task. Software programs (such as Boardmaker, Overboard or other similar programs) can assist in creating these visual cues. Visual cues can be strategically placed around the environment according to their appropriateness. For example, visual cues can be used to aid a person in the step-by-step process of doing laundry. Next to the laundry hamper, a visual cue can be placed that gives direction on how to sort clothing. Next to the washer, a visual cue can be posted that gives direction on how to start the wash. A visual cue can be posted on a timer to indicate what the timer is for, such as to check on laundry.

EVENTS PLANNING AND EXECUTING

This category is similar to the task planning and executing category. Many of the tools used may be the same, although social contact tools may be used in addition. Tools, such as voice or text messaging, e-mail, instant messaging or Facebook, for example, offer ways to communicate and plan for upcoming events. Some of these tools provide extensive features, such as Facebook's events invitation feature and Google's events invitation tracker. An important consideration in this category is the timeline required to coordinate between multiple people; extra time should be allowed for this coordination.

TIME MANAGEMENT

An individual's ability to manage time successfully has a direct correlation to the individual having developed the concept of passing time and being aware of their own task pace. An individual should be able to accurately estimate the amount of time a task would take them to complete. Often, this may be difficult to do when the task is new or if the individual is unaware of their task pace. To begin understanding their task pace, an individual can time and record themselves completing different types of tasks. An individual may also write out time estimations on their task component list and compare that to the actual time it took them to complete the task components. Tools, such as a Time Timer, egg timer, stopwatch or audible timer, can assist in developing the concept of passing time.

When planning out the timing of a task or of the day, it is important to schedule time for breaks and extra time for unplanned complications. For some individuals, it can also be helpful to frequently toggle between study topics and assignments. This can help reduce boredom and restlessness and increase attention for some individuals. For students especially, the timing of breaks needs to be consistent and accurate for motivational purposes, as well as aiding in developing the concept of passing time. Timers can be very helpful for staying on task and sticking to the schedule. There are many different types of timers with various features: interval, bugging, audible alarm, vibrating alarm and timers with visual text messages.

INFORMATION

Organizing information may seem like a daunting task at times, requiring cleaning out old information and reorganizing current information. Organizing electronic files can be done much the same as organizing printed papers, although it lacks the tactile element. Periodic file clean-outs and reorganization should be scheduled to maintain efficient organization of information.

When saving an electronic file, it is important for an individual to know the difference between the "Save" button and the "Save As" button. It is also important for the individual to know whether they need to save copies of multiple written drafts or if they should save over changes. Choosing the file name and choosing the folder by which to save is also important so that the individual can find their file again. It is important to develop skills and knowledge on how to organize files, such as by sequence of date, subject, activity or task.

E-mail accounts are another way to organize communications, as well as information. E-mail accounts may be used to save bits of information that is e-mailed to one's self or has been e-mailed from another person. Organizing e-mails into folders is an important skill. As we all may have experienced, a large amount of e-mails sitting in our inbox can be overwhelming. Some strategies may include setting up a folder specifically for items that need to be followed up on, marking

Figure 1

Traditional Tools/Mainstre	am Tools for	Organizatio	n				
	Environmen- tal/ Spatial	Tasks Planning/ Executing	Events Planning/ Executing	Time Man- agement	Information	Writing Composi- tion	Product information
Alarms				x			Varies
Bins, Tubs, Trays, etc.	x	x					Varies
Cell Phone/Smartphone		x	х	x	x	x	Varies
Clock/Watch				x			Varies
Color Coding	x				x		Varies
Folders, Binders, File Folders	x				x		Varies
Google Calendar		x	x	x			Google; free
iPod Touch/iPad Calendar		x	x	x			Apple; \$229-\$399
Labeling	x	x			x		Varies
Microsoft Outlook Calendar		x	x	x			Microsoft; \$140
Paper Planner		x	x	x			Varies
Paper To-Do List		x	x				Varies
Personal Digital Assistant (PDA)		x	x	x			Varies
Timers				x			Varies
Stopwatch				x			Varies
1				×	1		Valles
Non-Traditional Tools for (organization	ľ		1	1		C + 4150
Audio Notetaker					x		Sonocent; \$150
Community Integration Suite		x	x	x			AbleLink Technologies; \$1,099
Cue Classroom Scheduler				x			Onion Mountain Technologies; \$45
Day Planner		x	x	x			Attainment Company; \$9
Evernote					x		Evernote; free
Graphic Organizer Worksheets						x	Varies
Invisible Clock				x			Attainment Company; \$49
MIND MAPPING PROGRAMS: Inspiration, Draftbuilder, Bubbl.us						x	Inspiration Software; \$69. Don Johnston; \$159. LKCollab; free.
NOTETAKERS: Dana, Fusion		x		x		x	Renaissance Learning; \$350. Writer Learning Systems; \$149-\$369.
Onenote					x		Microsoft; \$80
Picture Planner		x	x	x			Cognitopia Software; \$199
Plan Your Day Curriculum		x	x	x			Attainment Company; \$89
Pocket Endeavor		x	х	x			AbleLink Technologies; \$1,299
Pocket Timer				x			Attainment Company; \$5
Remember the Milk		x	x	x			RTM; varies
Smartpen		x	x		x	x	LiveScribe, Inc.; \$100-\$300
StepPAD		x					Attainment Company; \$29
Talking Photo Album		x					Attainment Company; \$29
Time Timer				x			Time Timer; \$5-\$50
TimeCue		x		x			Attainment Company; \$16
Video Modeling		x		1			YouTube, HowCast.com; free
VISUAL SUPPORTS: Boardmaker, Overboard, etc.		x					Mayer Johnson; \$329-\$749. Gus Com- munications; \$169-199
VOICE RECOGNITION: Dragon Naturally Speaking, Dragon Dictate						x	Nuance; \$99-\$799
Voice Recorders		x	x		x	x	Varies
VoiceCue		x		x			Attainment Company; \$39
WatchMinder		x		x			WatchMinder; \$69-\$79

high-priority e-mails and archiving old and completed e-mails.

Electronic notebooks can be an efficient way to save bits of information from electronic sources, such as the Internet or files on one's computer. Some of these tools are: Clipmarks (clipmarks. com), Evernote, Google Notebook, Microsoft OneNote, Springnote (springnote.com), Ubernote (ubernote.com), Zoho Notebook (notebook.zoho.com) and Zotero (zotero.org). Each application is unique in the way that it interfaces with the collected electronic information or files. Some notebooks operate much like a scrapbook, where multiple notes can be placed on an electronic note page, arranged and sized as desired and a variety of different formats combined on a single page. Many of these notebooks can assist in the collection and creation of projects or grouping information together from various file formats.

In addition to organizing information, it is important for an individual to take notes on information effectively. There are a variety of note taking methods. The two-column method, a.k.a. Cornell notes, can help give visual distinction between main facts and supporting details. A line is drawn from top to bottom of the notebook page, giving one-third of the page space to the left and two-thirds of the page space to the right. The main facts are written on the left side, and the supporting details are written on the right side. Perhaps the more frequently used note taking method is the linear note taking, or outlining, method. This method requires more cognitive attention to process the linear order of the main ideas and supporting details. Audio recording instruction and information with a digital audio recorder or a Smartpen can be helpful for reviewing information. Using word economy by reducing the number of words written when taking notes will, over time, lessen the cognitive load of processing what is heard into written text. It can be helpful to abbreviate, use keywords and note the main ideas.

WRITING COMPOSITION

When writing a composition, planning the writing process is frequently skipped over, but it is the most important part and should be done first. Some example questions to be answered during the preliminary planning are: what is the writing style that must be used, what are the requirements for the composition, what kind of research must be done, where/how will sources be found, what are the deadlines and what are the topic parameters. A detailed task list and timeline with due dates should be established.

Once these questions are answered, brainstorming should begin. Brainstorming is a crucial piece in beginning the writing process. There are many different methods an individual can use to brainstorm. An individual could use a dictation program to free speak or an individual may free write/type. Another method is to use index cards or notecards, write individual ideas or facts on the card, and then use a large space to physically organize them. Graphic organizers are also a helpful tool. There are many different graphic organizers available, such as software, Internet applications, smartphone/Mac apps or paper templates. There are also many different types of graphic organizer templates that can be matched to the writing style the individual is using. Using a graphic organizer template can give helpful guidance for the structure of the written composition. There are also different approaches that can be taken when using a graphic organizer. An individual could begin with a free-form web and then organize it into a linear flow of thought, or an individual could follow the graphic organizer template in the linear order.

After the writing process is planned and the individual has brainstormed ideas, then writing the composition can begin. There are many checklists and acronyms available to provide reference for writing the composition. For example: POWER (Plan, Organize, Write, Edit and Revise) is a reference checklist that assists in all stages of writing the composition. There are also many acronyms for editing strategies. Choosing appropriate writing templates can be beneficial for guiding the student through the writing process.

SUMMARY

Organization skills affect the efficiency and effectiveness of an individual's daily life and their ability to accomplish goals. For Ethan, the young student we discussed in part one of the series who struggled to keep track of his assignments, developing organization skills would help him complete and file his homework appropriately, leading him to achieve academic success. There are many students like Ethan who could benefit from the development and practice of organization strategies and systems. Remember that organization is not an indicator of how clean the person or environment is, but rather how efficiently and effectively they can accomplish their goals. Including

the individual in every stage of the organization strategy development process is important to give them increased cognizance of the skill. Practicing an appropriate organization strategy consistently is essential, and be sure to incorporate memory aids as needed. Organization is not a skill that comes effortlessly; plan time in the daily schedule specifically for practicing organization strategies. Organization skills that are practiced and mastered will enable an individual to accomplish their goals and achieve what they set out to do.

To learn more about this topic and other Assistive Technology, PACER Center's Simon Technology Center (STC) staff would be happy to assist you. You can contact the PACER STC by calling 952-838-9000 or e-mailing stc@pacer.org. More information about PACER Center (8161 Normandale Blvd., Minneapolis, MN 55437) can be found at www.PACER.org. ■

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Making Evidence-Based Decisions about SPEECH GENERATING DEVICES AND APPS

BY LIBBY RUSH AND CELESTE HELLING

The introduction of mobile technology and apps has had an incredible impact on assistive technology options for persons with disabilities, especially in the area of augmentative and alternative communication (AAC).

Probably one of the most dramatic shifts has been the empowerment of parents and caregivers, as well as persons with complex communication needs themselves, to take a lead role in selecting, customizing and implementing an AAC system based on mobile technology equipment as



an affordable alternative to traditional speech generating devices (SGDs). To ensure high quality AAC outcomes, AT/AAC professionals must work diligently to encourage families, consumers and caregivers to seek out the direction and support of qualified AAC personnel in the selection of AAC apps.

Identifying an appropriate AAC system for persons with complex communication needs should always focus on achieving the highest level of generative communication achievable as the outcome of the AAC evaluation process. Therefore, the AAC evaluation process is initiated under the assumption that there is no single AAC system that works best for everyone. The available hardware and software options have unique advantages and disadvantages when evaluated, given the specific skills and preferences of the consumer. In order to evaluate mobile technology and dedicated SGDs, it is useful to be aware of the pros and cons that mobile technology solutions offer to persons with complex communication needs. Table 1 offers a summary of these considerations:

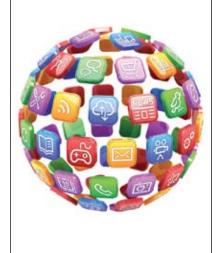


Table 1: Points to consider when evaluating mobile technology andspeech generating devices

Pros of Mobile Technology For AAC	Cons of Mobile Technology For AAC
Highly portable	Durability
Easy to obtain	Limited accessibility
Based on mainstream tech- nology	Does not meet criteria for DME
Relatively low cost	"Buyer Beware" purchase
Intuitive to use across age and disability	Lack of technical support and training
Empowers family and consumer	Purchases made without clinical recommendation or guidance
Useful for a range of assistive needs, from picture schedule systems to GPS tools, mini- mizing the need for multiple AT items.	Even the most competent apps involve a very high burden for programming and customization.
Can be used as a complete SGD	Multiple functions can be distracting for some
Can be used as a supplemental SGD	Quality control issues
	Limited growth potential within individual apps
	Generally less customizable than dedicated SGDs
	Perception of disposable technology may result in loss of time, money and development/rehabilitation of language and communication

As AAC evaluation teams become more and more involved with including consideration of mobile technology solutions in comprehensive AAC evaluations, the question that has to be asked is "How can we assure that these recommendations

will provide for the best communication system for a person with complex communication needs?" For the AAC practitioner, the answer to this dilemma can only come about when examining these new and exciting technologies as a part of an AAC evaluation based on clinical skill and best practices. AAC evaluations should never set out to answer "Which app is the best," but rather "What augmentative communication tools and strategies will best meet the needs of the individual?"

To do this, the AAC evaluation process must consider the following parameters as part of a typical evaluation for each individual:

- Developing a language representation model that will lead to the absolutely highest level of generative communication capabilities currently achievable, as well as likely to be achievable in the future.
- Identification of communication needs/ barriers
- Evaluate / determine current communication methods
- Past experiences using AAC symbols, strategies, boards or devices
- Environmental and communication partners factors
- Speech generating device (SGD) feature match



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If the AAC assessment results support consideration of a mobile technology app, then the feature match process of the AAC evaluation is applied to determine the features the final communication solution must have in order for the person with complex communication needs to best manage their expressive communication activities of daily living. This means that the AAC team must have detailed knowledge of the communication apps in order to compare the required system features. Finally, device trials should always be conducted to evaluate the appropriateness of the recommended mobile platform hardware and communication app.

The AAC process is not complete once the final AAC solution is identified for recommendation. In fact, at this point, ongoing AAC support is crucial to maximizing successful outcomes. Crucial service coordination and support to assist consumers, families and caregivers in seeking out and utilizing AAC apps must be negotiated among AT professionals and AAC stakeholders. Though the AAC evaluation should be the basis for initiating the use of any AAC system, many

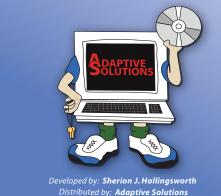
consumers are bringing their mobile technology and apps to practitioners and requesting support and direction in their use. At this point, it is critical that interventionists seek out and acquire the knowledge and skills to assist these consumers, families and caregivers. This will include both training in use of the app and support in organizing, customizing and managing the mobile device hardware and software. These issues are not new to AAC service delivery and coordination.

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However, given the commercial availability and relatively low cost of mobile technology and AAC apps, this is increasingly crucial to minimize inefficient use of resources.

As the mobile technology and apps phenomenon continues to flourish, there are issues that will undoubtedly need to be explored. Clinicians, as well as consumers, would be well served by asking the following guestions: How can interventionists provide clinical input to the app developers? How do interventionists forge relationships with families, caregivers and consumers to assure that those with complex communication needs seek out assistance from trained professionals? Where and how can interventionists gain and update knowledge about these technologies? How do interventionists support formal investigation into the efficacy of mobile technology, apps and additional technology supports? By focusing discussions about mobile devices, apps and dedicated SGDs around efficiently and effectively managing the AAC needs of persons with complex communication needs, all stakeholders can work towards service delivery based on high quality, evidence-based interventions

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assistive technology apps

AT Apps

for high school and postsecondary students with high incidence disabilities

The use of smart phones and tablets has exploded over the past few years and is showing no sign of slowing down. With this increase, we are seeing changes in habits of technology use by students. For example, anecdotally at the university level, students are more likely to communicate via text messaging or social media than through e-mail. Many students in high school and college settings have or have access to smart phones or tablets. For students with high incidence disabilities (learning disabilities, ADHD, etc.), there are several assistive technology (AT) apps that can be used on these devices to provide a more accessible education experience.





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SMARTPHONES AND TABLETS have several advantages when compared to computers, they are less expensive, they have a quicker start-up time, applications are often free or inexpensive, they are easily portable and they are simple and intuitive to use. Despite all of these positives, it is important to keep in mind that these devices are not always the best option for every student and, before purchasing one, a proper AT evaluation should be completed.

Because of the popularity of Apple devices in education settings, as well as the number of apps available (over 500,000) in the App Store, this article will focus on AT apps for the iPhone, iPod Touch, and iPad (although many have Android equivalents) that help students with high incidence disabilities who struggle with reading, writing, note taking and staying organized.

NATIONAL

READING APPS

There are several apps available to help students with disabilities that have difficulty accessing printed text. Each of the apps mentioned in this section will read text aloud to the user. The voices, prices and ability to highlight text as it is read vary on each of these apps, with each having strengths and weaknesses.

Read2Go (\$19.99): Read2Go is an accessible e-book reader app for the iPhone, iPod Touch, and iPad associated with Bookshare.org. With this app, Bookshare members have direct access to download any novel, textbook or periodical in the extensive Bookshare library, as well as DAISY books from other sources, directly to their device. Once downloaded, users interact with an easy-to-use interface to have the app read the book aloud. While the text is being read, dual highlighting is used to help the user follow along. Currently, Read2Go is

the only app that provides this function. It also gives users options to change the reading speed, the size of the text and the colors of the highlighting to fit their needs and bookmark pages for easier access upon returning to the text. Read2Go uses Acapela voices, offering the choice of a male or female voice to read text, as well as to speak menu options and book titles when chosen. The easy access to books, quick downloading, quality voices and dual highlighting make this an ideal tool for students with disabilities that struggle to read.

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Blio (Free, \$9.99 for voices): Blio is another e-book reader app that reads text aloud to the user. Blio itself is a free app, however, for the books to be read, the user needs to purchase a voice for \$9.99. However, even with a purchased voice, not all books can be read aloud. based on publisher restrictions. Blio presents books in full color and, when a voice is purchased, highlights each word as it is read (note, dual highlighting is not used here). To access books on Blio, the user purchases books through the Blio store, which is accessed through the Blio Reader Web site (http:// mobile.blioreader.com) and not through the app itself. Once purchased, the book is automatically synced to the Blio app. When the user opens the book in Blio, they can control reading speed and text size. The app also provides unique options to highlight important text, add annotations to text and look up words or concepts in reference Web sites directly from Blio. Although obtaining books can be confusing and some text cannot be read aloud, when reading is available, it is smooth and the unique annotation options can help with studying.

Speak It! (\$1.99): Speak it! is another text-reading tool, but instead of accessing books, it is used primarily for accessing e-mails, documents, Web pages and PDFs. As opposed to opening text directly into the app, the user needs to copy text from the desired document and paste it into the app. Then the user presses the speak button to have the text read back aloud while each word is highlighted. This app also allows for multitasking by reading in the background as the user does other things on their device.

NeoPaul, NeoKate, NeoJulie (Free): These free applications read text aloud to the user, however, they do not highlight as they read. Like Speak It!, the user does not open text directly in these apps; desired text must be copied and pasted into the application to be read aloud. Although there is no highlighting accompanying the text reading, and reading is best done in small chunks, students do tend to like the high quality NeoSpeech voices used by these apps. These voices are the distinauishing difference between these readers and other similar apps.

NOTE-TAKING APPS

Students with disabilities often struggle mightily in secondary and postsecondary settings with note taking in class. Students with learning disabilities struggle paying attention to the instructor while copying down all of the notes written on the board or projected in a PowerPoint. By focusing on writing everything, they often retain little. A common accommodation for this issue is audio recordings of lectures; however, listening to complete lectures multiple times is not ideal and can be time consuming. There are several apps that combine note taking and audio recording to create a more efficient product for students with disabilities.

SoundNote (\$4.99): SoundNote is a notetaking tool that incorporates both typed text and audio. This app allows the user to record the audio of a lecture. While recording, the user can type notes or draw figures. When a note is typed or drawn, it is linked to the audio recorded ten seconds earlier. When the user reviews the notes, they tap on a written note and the audio will begin playing back the recording from that point. This app essentially makes typed notes act as a bookmark of the audio recording, allowing users to easily access portions of the lecture that they need to review.

Notability (\$2.99): Notability operates very similarly to SoundNote in that it links recorded audio to typed notes for easy audio file navigation. However, there are a few more options that make note taking a more comprehensive process. In Notability, along with typed notes, the user can add hand-drawn figures using colors, Web clips to supplement the notes and images taken directly from the device, all of which are helpful additions to note taking. The most helpful component is the ability to include pictures taken from the device directly into the notes. This way, if the instructor is projecting something important, the user could snap a picture of the board with their device and add it directly into the notes.

PaperDesk (\$2.99): PaperDesk is similar to the previous two note taking apps in that it links written notes to audio recordings. Much like Notability, the user can add color drawings and images. Where this tool sets itself apart is that it ignores when the wrist touches the screen making for cleaner drawing and note taking. It also allows the user to organize notes by notebook, with each notebook being able to be uploaded to Google Docs for access on other machines.

WRITING APPS

Another area that students with disabilities are often looking for help from technology is with writing and there are several mobile apps that can help. Two of the most commonly used by students with disabilities are Dragon Dictation and Typ-O. These are very different tools but can both be beneficial to students that struggle with writing.

Dragon Dictation (Free): Dragon Dictation is a speech recognition app created by Nuance, makers of Dragon Naturally Speaking, a popular speech recognition program for the PC. To use the app version, the user must be connected to the Internet (because the recognition is done remotely on Nuance servers). The user simply taps the screen to start, dictates into the external micro-

phone and taps the screen again when finished. When recognition is complete, the recognized text is displayed on the screen. With this app, there no need to create a profile, however, this also means that the app will not learn from the user, the user cannot train words and recognition will not improve. For editing purposes, if a mistake is made, the user can tap a word to either replace it with the correct word from a list of potential corrections or delete the incorrect word. Once finished, users can e-mail, post to social media sites or copy and paste text into another document. This app helps students that have difficulty typing due to a physical disability, as well as students with learning disabilities that struggle with spelling.

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Typ-O (iPad - \$14.99, iPhone/ iPod - \$4.99): Typ-O is word prediction program designed to help students with disabilities that struggle with spelling. To use this app, the user begins typing a word. As letters are typed, Typ-O uses these letters to guess what the user is attempting to type and creates a prediction list. With this app, users can listen to the prediction options by pressing the play button next to each word. Once the user settles on the word they'd like to use, they simply tap it and it is entered into the document. Further helping students with learning disabilities, the application understands common misspellings and is able to provide the proper word when common misspellings are used. Along with guessing words as the user types, Typ-O also guesses the next word based on the previously used words. Overall, the predication capabilities combined with the auditory feedback makes this

app very desirable and effective for students with disabilities that struggle with writing.

REMINDER APPS

VoCal (\$.99): Many college students with disabilities, such as ADHD, have difficulty remembering due dates, assignments, tests or even when to take their medications. VoCal is a great tool for helping provide vocal reminders associated with a calendar. To use this, the user records voice messages and then sets times on a calendar for them to be played. Once the setup is complete, when time for an alarm comes, the app plays the recorded message as the reminder. It also leaves a message on the desktop of the device so the user can replay the message to hear what needs to be done. Students find these auditory reminders very helpful in keeping themselves organized.

REMOTE DESKTOP APPS

Splashtop Remote Desktop (\$19.99): Splashtop Remote Desktop is another popular app for students with disabilities because many AT tools that students use do not have mobile device versions. With this app, students can access tools on their desktop computers on their mobile devices. For example, at the University of lowa, several students have Read and Write Gold on their desktop computers. Using Splashtop, the student can access their home computer directly from their iPad, iPhone or iPod Touch and use this tool. Another benefit of this app is that through the Internet browser on the home computer, students can access flash-based Web sites, which they are unable to do in Safari on iPhones or iPads. In order to access the desktop on an iDevice, the user must download the Splashtop Streamer to their home computer and

have their home computer running. As long as both the home computer and the mobile device are connected to the Internet, the desktop can be accessed through the mobile device.

The apps discussed in this article do not constitute an exhaustive list for students with disabilities, but rather a toolbox of varied options. There are several other AT apps that can benefit students and new ones are constantly being created. Regardless of the app, remember it is always important to properly evaluate a student before arriving at an app for use.







Creating and Customizing Early Literacy Supports Using Boardmaker Studio

For all of us, the ability to read and write is critical to our feelings of success and well-being. Through reading and writing, we communicate our thoughts, we connect with others and we share the experience of humanity. While this is true for all students, it is particularly true for those with the most significant disabilities, who often rely on their literacy skills to participate fully in society.



LISA KEHOE is a special educator who has worked with children with moderate to severe disabilities. After teaching, Lisa pursued a career outside of the classroom, focusing on Assistive Technology. Lisa currently works for Mayer-Johnson as their Customer Learning Manager. In this position, she educates and trains teachers, speech pathologists, parents and other professionals.



MAUREEN DONNELLY

is a teacher who has worked with children and adults across a range of diverse educational settings. As an independent consultant for the last decade, Maureen has created and co-created literacy curriculum and materials for students who read and write at beginning levels. She currently writes educational content and curriculum for Dynavox Mayer-Johnson. hile the conversation around best practices in literacy instruction is ongoing, one thing that most parents, teachers and clinicians can agree upon is that there is no one way to teach all learners to read and write. Children come into our classrooms with divergent personalities, temperaments and literacy backgrounds. Some children enter first grade reading chapter books while others have never held a book independently. Given this reality, the safest assumption to be made about effective literacy instruction is that all learners require a balance of reading and writing instruction every day. Balanced literacy instruction acknowledges the need not just for a wide range a reading and writing experiences, it also necessitates a balance in how students spend their time – independent navigation of literacy materials is valued in conjunction with time spent reading, writing and thinking with peers and teachers. Each of these interactions and experiences (and many more!) is not only valuable, they are necessary.

Pat Cunningham's Four-Blocks Framework is one example of a multi-method approach to achieving balanced literacy instruction. Each of the four blocks is clearly outlined and goal-oriented so that teachers can ground aspects of their present practice into an overall framework that is balanced and research-proven. This article details each of the instructional blocks and how Boardmaker Studio is one example of a technology that can support all students in achieving their reading and writing potential.

GUIDED READING

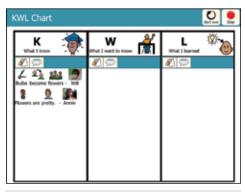
Guided reading is a time during the day when the teacher reads with a set purpose. The goal of Guided Reading is comprehension, not just about a particular text, but about texts in general. This block is specifically important to children with disabilities because typically, the emphasis in literacy instruction is on decoding. By embedding these comprehension layers with decoding, research shows that students begin to understand that reading is about making meaning. During Guided Reading, it is important to employ modeling strategies for understanding meaning.

Let's explore how Boardmaker Studio supports Guided Reading. As part of a guided reading lesson, teachers endeavor to help their students build background knowledge and make connections between their experiences and the text at hand. A variety of methods can be used to build background knowledge and help students make these connections, such as isolating and exploring new or difficult vocabulary, developing a KWL chart, and/or taking a picture walk through an electronic book.

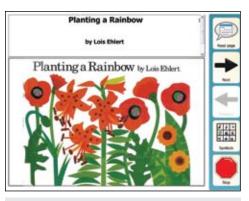
During the reading, we can do a group reading of our electronic book on the interactive whiteboard. We can use the Symbols button as way of discussing the book. The Symbols button automatically generates symbols on the symbols panel based on the words on that page. These symbols are then draggable, which works beautifully on an interactive white board.

SELF-SELECTED READING

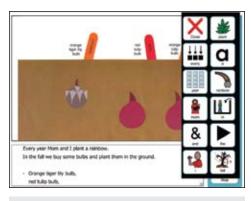
The Self-Selected Reading block is as is it described: an opportunity for students to select their own texts. It provides students with the opportunity to experiment, practice and refine their developing literacy skills across tasks, texts and environments. Students can select books from wide range of topics and formats. During the Self-Selected Reading block, students should always be encouraged to read at their own level. The goal of this block is to build the love of reading!



Use symbolate to have each student dictate what they know about a topic and what they want to learn. You can include student's photos alongside their statement.



Book Templates: Pick from our collection of book templates, including Symbolated books.



Book Template with Symbols Panel: Students can drag symbols onto the book during reading.



		Name	Value	Description
) Bookshelf.bpf	▶ 1	AutoRead:	No	Do you want the page to be automatically be read aloud when you turn the page?
Planting a Rainbow	x) 2	UseSlideShowMode:	No	Do you want the student to be able to turn the page by clicking anywhere on the screen?
Here On Earth	3	ShowStopButton:	Yes	Do you want to show the Stop button?
- ()	<u>x)</u> 4	ShowPreviousPageButt	Yes	Do you want to show the Previous Page button?
	5	ShowSymbolsButton:	Yes	Do you want to show the Symbols button, that brings up a symbol board for the page?
	6	SymbolsTable:	Edit Content	Use this table to specify symbols that you would like to appear for specific words when you hit the Symbols button.

Use the Project Setup menu to turn off the auto-read option during Self-Selected Reading.

Let's explore how Boardmaker Studio supports the Self-Selected Reading block. For starters, the book templates allow teachers to quickly generate a customized library of electronic books. The automatic reading can be turned off to support independent student reading. Whereas the Symbols button was used in Guided Reading as an interactive collaborative tool, it can be used in Self-Selected Reading to support understanding of difficult/unfamiliar words. You can think of it as a symbol-based glossary. Students can also use the text-to-speech functionality as a read-aloud before they read on their own.

SOME ADVANTAGES OF STUDIO FORMATTED BOOKS INCLUDE:

- Accessibility
- Symbol Support
- Text-to-Speech
- Symbols Button

While electronic books can be particularly appealing and supportive to students with disabilities, there is no expectation that this library would replace all books and reading in the curriculum. All readers need access and experience with as wide a range of literacy materials as possible and electronic books should account for just a portion of this. Also note that for selfselected reading, you may want to consider not using one of the Symbolated text templates. Students should be reading a text on their

level and should not be reliant on the direct symbol support Symbolate offers.

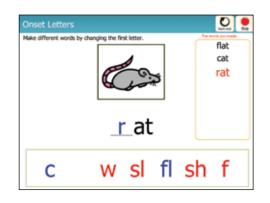
WORKING WITH WORDS

The goal of the Working with Words block is not only to teach children to read individual words, it is also to teach them what to do when they encounter an unfamiliar word. Ample repetition with variety is the key to word study success. This block should not be approached from a masterybased mindset, but rather as one that allows students multiple opportunities to encounter, explore and refine knowledge of these words across many contextual reading and writing experiences. Our goal for students is for students to read, spell and use the words they are learning!

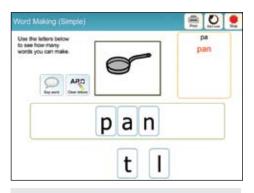
Let's explore how the Guided Reading block can be addressed using Boardmaker Studio. There are several templates in the Word Study category that work well within this block. The Onset Letters template has the student change the first letter of a word to change a word.

Also in the Word Study folder, the collection of Word Making templates has students make words by adding, removing or inserting letters. Like the Onset Letters template, this template includes symbol reinforcement as words are created.

Other templates can also be used within the Working with Words block. For example, the Sorting templates can be used to sort letters or words based on commonalities.



Use the Onset Letters template to build words within a word family. Symbol reinforcement is provided as words are created.



Students use the Word Making templates to experiment with letters to build words.

WRITING

The goal of the Writing block aims to help students develop the ability to construct meaningful text for real purposes and real audiences. Research shows that writing instruction that is embedded in meaningful contexts tends to lead to the greatest increases in student growth. This block is particularly important for children with disabilities because many learn to read by writing, while many others learn to speak by writing. Through writing, students are able to slow down the meanmaking process that happens relatively quickly in both reading and speech.



Writing is the most multilevel block - it is important that students view writing as a way to communicate. Fluent writers use grammar and mechanics, have knowledge of different writing forms, think more clearly through writing, can adapt their voice to different audiences and purposes, and maintain motivation and self-confidence throughout. Whether or not a student has identified disabilities, these are the ultimate goals of writing instruction for all learners. The writing block gives us a clear window into how the kids are thinking and displaying their literacy skills and allows us to continually refine and build upon writing instruction.

Let's explore how Boardmaker Studio can support the Writing block. Boardmaker Studio includes a full range of developmental writing supports, from errorless writing to independent composition. Choice Writing is a good example of an errorless writing template that is great for quick participation. Students can select the sentence starter and a pop-up board of sentence finishers is presented.

The Topic Writing Framework template can be used on its own as a writing support and is used within many writing format templates, including Write a Book. The Topic Writing Framework is a talking word processor with adjustable symbol support. It presents for "tabs" of writing supports: phrases, vocabulary, core words and a keyboard.

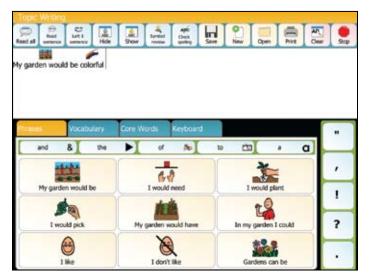
Additional supports are presented in this template, as well as most other writing templates, including:

- Symbol word prediction
- Editing tools
- Text-to-speech
- Adjustable student driven symbol support

For all of us, the ability to read and write is critical to our feelings of success and well-being. Through reading and writing, we communicate our thoughts, we connect with others and we share the experience of humanity. While this is true for all students, it is particularly true for those with the most significant disabilities, who often rely on their literacy skills to participate fully in society. As technological advancements continue to make the literacy curriculum more accessible, it stands to reason that expectations can be raised about who can achieve reading and writing proficiency. As the Four-Blocks method is one example of a balanced literacy instructional approach, Boardmaker Studio is one example of a technology that provides democratic access to the range of interactions and experiences that can lead to literacy success.



Choice Writing is an ideal template for participatory writing.



Use the Topic Writing Framework to present students with a range of writing supports to meet the needs of various writing levels.

Increasing Socialization and Communication Using the Principles and Procedures of Applied Behavior Analysis (ABA): Moving Beyond Discrete Trial Teaching (DTT)





KAREN HAMILTON BARINEAU is an

Autism Specialist for DeKalb County Schools, Stone Mountain, Georgia. She has 21 years of experience working with students with disabilities. In her current job, she consults with teachers on behavior, curriculum and instruction, and helps them implement the strategies in their classroom. Ms. Barineau also provides district level training on the Georgia Performance Standards for individuals with disabilities and Nonviolent Crisis Intervention. She has presented training for parents and professionals on a local, state, and national level. HOLLY STEINKAMP is a Board Certified Behavior Analyst for DeKalb County Schools, Stone Mountain, Georgia. Ms. Steinkamp has experience working in the public school system and in many in-home therapy clinics that provide intensive instruction on communication, socialization, cognitive skills and behavior. In her current job, she consults with teachers developing instructional programs, management programs for classrooms and data collection methods. Ms. Steinkamp also provides district level training on behavior management, data collection, Applied Behavior Analysis, Verbal Behavior Analysis and Nonviolent Crisis Intervention. She has provided training for parents and professionals. Applied Behavior Analysis (ABA) has been an effective methodology for teaching new skills to individuals with autism and/or developmental disabilities for over 50 years. The National Research Council (2001) identifies ABA interventions as an effective teaching strategy. But many people do not clearly understand exactly what ABA is. The principles and procedures of Applied Behavior Analysis are based on science. ABA is a systematic approach used to teach any skill that is of importance to an individual with autism or a developmental disability. The skills identified are based on assessments given, either informal and/or formal, to determine the essential needs of the individual.

Once skills are selected, goals are measurably written in order to effectively collect data on target behaviors

Complex, multi-step skills may need to be broken down into a task analysis to allow for each of the steps, or building blocks, to be analyzed in order for the individual to achieve the end goal. ABA instruction can be delivered either one-to-one and/or in small/large group, depending on the targeted skills being taught. The skills addressed should focus on communication, adaptive living, recreation/ leisure, socialization, motor and/or cognitive/academic domains.



Parents often hear about ABA on the news or read about educating individuals with autism on the Internet and approach the school system, not being well informed about what the methodology entails. ABA does not equate DTT.

"Many special education programs serving students with autism equate ABA with Discrete Trial Teaching (DTT). Although DTT is an important instructional component of ABA programs, DTT in isolation does not constitute comprehensive ABA services for children with autism and fails to provide the range of interventions needed to produce broad improvement" (Steege, Mace, Perry & Longenecker, 2007, p.94). Discrete Trial Teaching is only one small component under the umbrella of ABA. DTT has been defined as an instructional teaching method that is usually implemented in a highly controlled setting, which results in responses that are under the control of very specific stimuli. The progress observed in controlled settings seldom generalizes over to new situations, people or environments (Cowan & Allen, 2007).

DTT is an important, but small, part of a comprehensive ABA program. Most often

when people describe DTT, this methodology is described as taking place in a oneto-one setting, at a table, working on very specific and discrete skills. DTT is successful; however, children with autism and developmental disabilities need to learn to use and apply learned skills into their everyday lives in order to make the most out of those skills. THIS IS WHERE THE PROBLEM OF TOO MUCH ONE-TO-ONE DTT LIES. Data and progress are easy to show in such a controlled setting where learning is isolated. Learning and applying skills in the natural environment can take more time and can be more difficult to collect data on. However, mastering skills in the natural environment is the setting that is most important and meaningful for the individual.

Educators must be aware of the importance of being systematic with instruction, making data-based decisions and teaching functional/meaningful skills to individuals with disabilities. Socialization and communication development are the two essential skills that educators should focus on when teaching individuals with disabilities. These skills should be taught using the principles and procedures of ABA but are best taught in the natural environment. These skills need to be systematically embedded across the instructional day, into the individual's daily activities. "Embedding instruction into developmentally appropriate activities is a recommended practice in early childhood programs and provides children with opportunities to acquire skills within the context of a variety of conditions, settings, individuals, materials and activities." (Daugherty, Brisham-Brown, & Hemmeter, 2001, p. 215).

Educators must prioritize skills for instruction. Skills such as communication and socialization are essential for the student to function more independently in least restrictive settings. (Snell, 1987). When identifying skills, educators must be aware of the end goal and use supports, such as assistive technology, to make this possible. "Functional relevance means that the curricular goals and methods of instruction are socially valid, representing areas of need that will truly have a significant impact on the student's life. Parent and team members should be able to quickly and easily answer the question, "Why are we teaching this?" Functionally relevant priorities ultimately increase the student's skills, membership and participation, relationships, and self-determination." (Orelove, Sobsey, & Silberman, 2004).



Jose during the Christmas children's choir concert at his church. He is using his AAC device to read scripture between each song. Even though Jose could not verbally sing with the choir, he could still be an active participant by using his device in this way.

CASE EXAMPLE 1: JOSE

Jose is an 8-year-old boy who is placed in a self-contained classroom and uses an alternative and augmentative communication (AAC) device in order to effectively communicate.

Jose is a very sweet and social little boy who enjoys being around

friends and family. Jose loves to meet new people and goes out of his way to introduce himself to people. Since his adoption, Jose's parents have looked at how to improve his quality of life. When Jose was 4 and a half years old, his parents, with the help of his speech therapist, purchased the SpringboardLite AAC device for him. When evaluating what skills are most important for Jose, his parents, special education teachers and therapists have always emphasized the importance of teaching effective communication and socialization skills.

For Jose, this includes being able to use his AAC device, signs, gestures and sounds to communicate with others. Since Jose is so interested and motivated by being around and interacting with people, his parents have gone above and beyond providing Jose with valuable experiences in the community. Jose and his family are involved in their church and Jose goes to camp in the summer.

Going to church is an activity that is very important to Jose

and his family. They are active members of First Baptist Church, Decatur. Jose's parents, special education teachers and therapists believe in the importance of focusing on teaching Jose to access his AAC device in order to participate in church and community activities. Jose's parents helped program a 'church page' on Jose's AAC device so he could actively and independently participate in singing, prayer and liturgical readings during the service. He also uses his AAC device to socialize and comment with those around him after the church service. During summer camp, Jose is able to request campfires and s'mores and comment and converse with his friends.

Learning to effectively access his AAC device and communicate with those around him has made a huge impact on the quality of Jose's life. With the help of his parents, special education teachers and therapists, Jose will continue to expand his communication potential. Specifically, these skills will continue to be fine-tuned throughout the academic school year with the goals developed on his IEP. By using his AAC device, Jose now has a clear voice in this world to communicate with others and express his wants, needs and desires.



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CASE STUDY 2: ANNA

Anna is a 10-year-old girl in a self-contained placement who uses a variety of AAC devices, such as a Dynavox, iTouch and iPad. Anna's parents highly value Anna's happiness, safety and her ability to communicate. Anna's parent's are strong advocates for developing her communication skills and have continued to work on and explore different opportunities to ensure Anna's success. Anna's parents encourage communication across her day in order to provide as many opportunities to practice as possible.

Anna communicating about her favorite sporting event. Anna's parents allowed her the opportunity to select her back to school supplies. Anna chose Atlanta Braves pencils, notebooks and backpack to demonstrate her loyalty to the team.



Anna is a sweet, loving little girl who loves spending time with her sister in Girl Scouts, going on vacations and to sporting events with her family. She enjoys attending the Atlanta Braves baseball games on a regular basis and the social aspects of the event. Anna looks forward to telling her family, teachers and peers that she wants to go to a game and effectively communicates while attending the game.

When selecting vocabulary to program on Anna's AAC devices, her family and school staff identify language that is of interest to her and is functional to the environment she is engaged in.



An example of a page on her AAC device with some of her vocabulary. IEP team members must continue to evaluate and determine what activities and events are most meaningful and embed the individual's interests into communication opportunities. Anna's family and staff have gone above and beyond to ensure Anna's happiness and her ability to communicate more effectively.

December, 2011 / January, 2012

CASE STUDY 3: AJAMU

Ajamu is a fifth-grader placed in a resource room with opportunities for inclusion in a general education setting. Ajamu has Asperger's syndrome and enjoys race cars, soap operas, Wheel of Fortune and Alice in Wonderland. Ajamu is working on greeting others and maintaining conversation with his peers. A daily job for Ajamu was created. As part of his morning work, he was to ask three peers a weekly survey question. He had a visual script to support his communication deficit. Ajamu would carry the script with him and utilize it, if needed. The information was tallied from the survey and the general education teacher would graph the results on Friday. The attached script is an example of a weekly survey question for Ajamu to ask his peers. Staff were systematic with instruction by creating opportunities for Ajamu to communicate with his peers throughout the day. Ajamu's IEP goal was measurably to effectively take data on this skill. The supports were put written into place to allow him to be successful. Over time, the script can be faded if he no longer requires the support.



This same skill could be adapted and a step-sequencing device could be utilized to complete this task for an individual that was non-speaking or had limited verbal skills. Principles and procedures of ABA were used in teaching these skills but done in a functional and meaningful way by addressing skills that will be necessary for the individual in his/her current and future environment. Teachers structure supports and instruction to ensure that a student's actions and initiations result in functionally relevant events that are, again, connected to the activities



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and environments in which the student is engaged.

The power of communication has made a significant impact in Jose, Anna and Ajamu's life. The skills identified on these students' IEPs in which the special education teacher will focus on and collect data on throughout the academic school year are the skills that will impact and make a difference in these individuals' guality of life. Teaching these critical communication skills is most effective when using natural opportunities and the special interests of each individual. Using the principles and procedures of ABA is considered one of research's best methodologies for teaching individuals with autism and developmental disabilities. The skills described in the case studies could not have been effectively achieved and generalized if they were taught in a one-to-one DTT setting. Educators and parents should move beyond DTT and work together to develop an individualized, comprehensive program that is systematic and includes the principles and procedures of ABA across all environments and in natural settings.

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ASSISTIVE TECHNOLOGY SPOTLIGHT

New Anytime Go-Togethers Fun Deck from Super Duper Publications

Super Duper Publications has added a new photo-matching card deck game to its line of educational materials — Anytime Go-Togethers Super Photo Fun Deck — to help children increase their vocabulary, matching and memory skills.

Anytime Go-Togethers, for ages 4 and up (grades PreK to 5), has 168 full color 4"x4" cards (84 pairs). Each photo is on a crisp, white background, making it easy for children to identify the objects. Educators and parents can use these cards to encourage children to name, describe and match the items in the photos. Anytime also includes an Instruction Booklet with color thumbnails of every photo, game ideas and a longlasting metal storage tin.

Super Duper Publications creates fun educational materials for children with special needs and communication or language delays. Super Duper offers a wide variety of products for teachers, therapy professionals and parents to use with children in a classroom, therapy setting and at home.

Super Duper also offers award-winning software programs for children to practice their matching skills — Funzee Everyday Sounds Software and Funzee Everyday Go-Togethers Software.

In addition, Super Duper has two other Fun Decks for practicing matching skills– Functional Match-Ups and Shadow Match-Ups.

To see the full line of Super Duper products, visit <www. superduperinc.com>.

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New device from RJ Cooper allows you to control your infrared remotes from your iPad, iPhone, iPod or computer

Control TV/Cable/Satellite and other Infrared (IR) devices, as well as X10/Insteon real-world devices, from your iPad, iPhone, iPod Touch, and from any computer/tablet Web browser, and from any PC with special talking and scanning software.

The "RedEye" Controller is a small, WiFi-enabled device that takes commands from one of

the devices listed above and beams IR to your entertainment or X-10 controller. In short, it lets you change channels from an iPad or turn on a light from your Mac/PC.

Available for \$199; optional PC software is \$119.

Learn more at <www.rjcooper. com/remote-controller>.

SPOTLIGHT

Nokia rolls out new screen reader

Nokia has announced a screen reader this week at Nokia World 2011, in addition to a number of accessibility apps. These new products matter because they will make it easier for people with disabilities to use Nokia devices.

The software supplier for the Nokia Screen Reader is Code Factory, based in Spain. The CEO, Eduard Sánchez, describes the situation:

For a blind person, the only way to use a mobile phone without accessibility software is to know it by heart. That is, you need to know that if you press the Menu key and scroll down four times, you will be at the Message folder. And, when you get there, it is necessary to press the right softkey to open Options. It's difficult to learn the different functions and memorize them. This makes the phone largely inaccessible. The Nokia Screen Reader provides a great alternative.

The Nokia Screen Reader is an application that converts screen content into speech. It's helpful not only for users with sight limitations, but anyone who is not able to dedicate their attention to the screen. For example, it allows you to listen to text messages when you exercise.

Besides calling and texting, the screen reader is helpful for browsing the Internet, accessing call lists and contacts and managing the calendar. It works on touch screen devices and those with a physical key pad. The reader features a simple command structure that is easy to remember, as well as a configurable control panel. It's available at launch in eight different languages: English, Spanish, French, German, Portuguese, Finnish, Swedish and Italian.

The Nokia Screen Reader can be downloaded from the Nokia Store free of charge. It will be available before the end of the year for the C5 5 MP, Nokia 700 and Nokia 701 with Symbian Belle. We're also exploring opportunities to bring screen reader technology to feature phones to reach as many customers as possible.

The launch of the Nokia Screen Reader coincides with another important development: the new Accessibility Channel in the Nokia Store. This channel aggregates apps that can assist people with vision, hearing and speech, as well as cognition and dexterity problems.



So what kind of apps are available? Well, there is Vlingo, a voice recognition app that carries out commands on the device. Or T9 Nav, which finds information on your device when you type what you're looking for. Or, if you left your glasses at home, try Font Magnifier, which allows you to zoom the text by 140 percent. There are now some 50 apps available for download from the Nokia Store for selected Nokia devices. If you need assistance downloading the Nokia Screen Reader, please call Nokia Customer Care in your country <www.nokia. com/global/support>, or send us a message on Twitter @Nokia-Helps.

We're continuously working to improve our accessibility offering. Please tell us what sort of accessibility apps and device features you would like to see in the future from us!

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Tobii launches first AAC industry multi-platform vocabulary app

Tobii Technology announces the release of Sono Flex, the industry's first multi-platform communication application. Developed by AAC professionals for preliterate users, Sono Flex is an Augmentative and Alternative Communication (AAC) vocabulary that turns symbols into speech.

Tobii Sono Flex bridges the gap between consumer electronics and dedicated assistive technology, making Tobii the first major AAC company to offer a vocabulary for the iPhone, iPad and PCs, as well as for speech generating devices. Sono Flex can be used as a stand-alone solution or as a compliment to a dedicated communication device, for example, in social settings, such as traveling or meeting friends.

LANGUAGE GROWTH PATH FOR PERSONAL EVOLVEMENT

Tobii is committed to empowering its users' continuous language development."With Sono Flex you are not stuck in one single app," says Oscar Werner, President Tobii Assistive Technology. "Some will start with Sono Flex on iPad and then move on to our more sophisticated language products and our C-Series devices. For others, Sono Flex on the iPad will be enough."

Choosing communication software and mastering its language is a long-term commitment. Sono Flex has been designed with a development curve in mind, to offer a migration path through the entire Tobii Sono Suite and the potential to advance to new levels as the users' individual experiences and skill sets expand.

"Newer platforms, such as iPhone, iPad and Android, have opened up immense possibilities for AAC users," says Werner. "Now it is time that the AAC players stop talking about technology and focus on what is truly important - the development of communication."

JUMPSTART INTO MEANINGFUL COMMUNICATION

Characterized by structure, flexibility and a clear growth path, Sono Flex is not the typical "isolated" app, rather a unique tool that fosters long-term language and communication development. Sono Flex is an instrument for young curious minds to realize their full development potential – that they don't remain in the same place that they started.

Sono Flex comes with more than 11,000 SymbolStix symbols, a mix of core vocabulary and more than 50 pre-installed contextual communication categories, such as "birthday party" and "playground", making it easier for the user to jumpstart into meaningful communication. This empowers the user to initiate communication and reduces the time that speech and language pathologists, teachers, parents and caregivers need to invest in set up. "Awesome, awesome, awesome!", says Alycia Berg, MS, CCC-SLP, Boston Children's Hospital." It is great to have the situational modules at hand so easily. This is just perfect for us to prepare sessions with clients with a minimum of time consumption. It is really nice that you have chosen very interactive and playful contexts that are age independent."

AVAILABLE IN MULTIPLE VERSIONS

Tobii Sono Flex for the iPhone, iPad and iPod touch is available in two versions; a fully functioning, but slightly limited demo version available at no charge, called Tobii Sono Flex Lite, and our full version, called Sono Flex.

The same Sono Flex software that functions on your iPad is also eye trackable on your PC and your Tobii communication device.

Read more at <www.tobiisonoflex.com>.

HumanWare's new Brailliant BI 40 Braille display

HumanWare is now shipping the first model of its new generation Braille display, the Brailliant BI 40 that takes reading to a higher level and introduces more affordable prices.

INTELLIGENT ERGONOMICS

The Brailliant display is designed for extensive reading comfort and easy navigation using HumanWare's signature thumb keys. Compact and highly portable, the Brailliant display fits seamlessly in front of a laptop or desktop keyboard for optimum practicality and ease of use. It can also be used with many preferred mobile devices. Built December, 2011 / January, 2012 with lightweight, long lasting aluminum housing, the Brailliant will hold up to daily wear and tear.

PRECISE AND EFFICIENT

This new generation of Brailliant displays includes the high quality, sharp and crisp Braille cell technology that users have praised on the BrailleNote Apex. The new Brailliant features a responsive Braille keyboard for input and command keys located on each side of the display. This simple layout facilitates navigation and allows control of the screen reader without shifting hands away from the display.



The new Brailliant BI 40 display has 40 Braille cells and is compatible with JAWS 10 and later and Window Eyes 7.5.2, in 32- and 64-bits Windows operating system computers. Further support from other screen reader manufacturers, such as Apple, Dolphin, NV Access is ongoing as well.

Brailliant displays are now available in North America, the

UK, Continental Europe and Australia.

For additional information, visit <www.humanware.com/ brailliant>.

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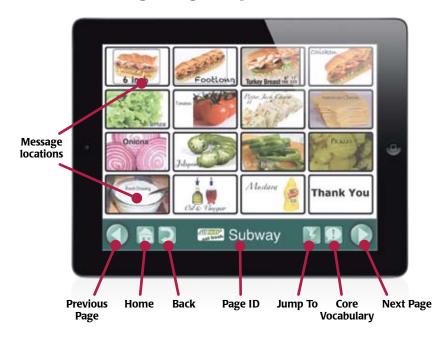
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