Closing The Gap
Solutions

Lightening the AAC Toolkit Load: iOS Devices in AAC Evaluations

ULS + CS4 = Student Success!

Adults with Autism

Preparing for the Post-Secondary Environment: Strategies and Technology Supporting Organizational Skills

AAC Evaluations and Feature-Matching

Beyond Communication: Using Eye Gaze Technology to Access the Computer

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Editor's note

Megan Turek

Due, in part, to the documented interest in our online edition and its ability to be even more timely and more engaging for our readers, Closing The Gap has decided to no longer offer a print subscription option. This, the June/July issue of our magazine, will be our last print issue.

While the print format has been a chosen and proven resource for many for years, we can assure you that the online edition will continue to offer exceptional content and learning opportunities. Timely articles, searchable data bases and full and unlimited access to archived webinars will all allow for very targeted, timely and personal learning.

Website visitors are encouraged to take a free, two-day trial of our online subscription by visiting <www.closingthegap.com>. Here, visitors can see first-hand the benefits of an online subscription – current and archived issues, downloadable PDFs, searchable databases and access to archived webinars on demand.

On behalf of the entire staff of Closing The Gap, I would personally like to thank you for your years of dedicated print readership and very much look forward to transitioning from print to online with you. It is an exciting change and exciting time to embrace all that assistive technology has to offer.

With warm regards,
Megan Turek

Lightening the
AAC Toolkit Load:
iOS Devices in
AAC Evaluations

The iOS revolution has changed the way a lot of people are thinking about and using AAC

Many parents have given up the fight with school districts and insurance companies and purchased iDevices. School districts have set aside purchases of expensive dedicated devices in favor of iPads with AAC apps for kids who need AAC. While iOS devices aren't right for every student who needs AAC, they are providing access to high tech AAC to a lot of students who have not had it before.
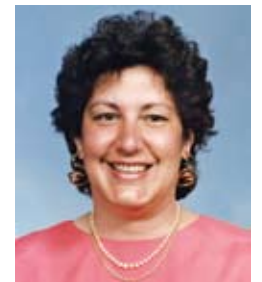
SUSAN BERKOWITZ, M.S., M.Ed. SLP. has been a speech-language pathologist for 35 years, and has worked with students with autism for 40. Susan has a Bachelor's degree in psychology, a Master of Science degree in speech-language pathology and audiology, a Master of Education in school administration and has completed more than 30 hours of graduate classes in special education. She actively participates in continuing education programs and is currently enrolled in a certification program for use of mobile technology with students with disabilities. She has a strong background in applied behavior analysis.

She has had her own private practice since moving to San Diego in 1997. Her newest venture is as an app developer for iPad apps. Her company - Language Learning Apps, LLC - released its first app in September of 2011.

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One of the ways iOS deices can revolutionize the way clinicians look at AAC is through use of them in evaluations

School districts rarely have the funds to supply an AT department or individual SLPs with an array of low and high tech AAC solutions to use in assessing students. Individual clinicians and clinics are in the same boat. Fully equipped AAC centers are few and far between in most parts of the country. So what's a clinician to do? While nothing can take the place of device matching trials, using the iOS device in AAC evaluations can provide a sufficient amount of data to lead to a good AAC system trial.

I am not advocating an iOS device for all AAC users. Nor am I advocating by-passing a full AAC evaluation and simply purchasing an iPad. I am looking for cost-effective ways to assess students for needed features, using available low-cost technology. Apps are available for communication, language development, fine motor skills and switch use. Use of these apps can provide invaluable data needed for decision-making without having to access each piece of dedicated device hardware. A knowledgeable professional can use this data and their knowledge of software options on dedicated devices to choose a device for trial or to recommend a specific AAC app.

Many AAC apps continue to be just one more variation on the choice-board theme. Many offer limited ability to expand and teach language use. Some offer the possibility of becoming closer to full-functioning, but only with considerable time spent programing and linking multiple pages. Some of these, however, have good potential as assessment tools, if used well.

Gayle Porter (1995) has paraphrased Goossens' (1989) articulation of the "Catch 22" of AAC assessment, thus,

"We can only see what the individual is doing with what they have been provided. If we think this is all they can do, we don't provide anything more. If we don't provide anything more, the individual never learns more."

The goal of an AAC evaluation is to determine not just the student's current skills, but also to try to determine at least short-range potential, and to begin to design a system that matches these abilities and the student's communication needs.

Research

Beukelman and Mirenda (2005) addressed the need to assess participation patterns and communication needs during typical interactions in natural settings.

Their model is based on the functional participation requirements of typical peers and is designed to assess and intervene across all environments. We should choose the materials and activities that interest the student, provide opportunities for the student to use multiple communication functions and provide sufficient symbols to express all of those functions. We should not provide just those symbols that meet the student's current communication targets, but also vocabulary symbols that provide for the next levels of skills and for adults to use to model language expansion.

Looking at the communication needs of the student is one of the most crucial pieces of this picture. Students need to do more than just make simple requests. We need to determine the student's skills in language, vision, hearing and physical access modality and their specific idiosyncratic environmental demands. We also need to determine the skills of their communication partners. We need to look at the symbol type, symbol size and array size to which the student responds best. We need to look at grammatical skills and potential and at ability to navigate through use of categorization. We need to look at syntax sequencing abilities and potential, ability to access available vocabulary and use of morphology - if any. We also need to look at the range and variety of communication functions demonstrated. To do all of this, we need to have a good look at what the student is doing to communicate, where and when they need to.

There has been a paradigm shift in AAC evaluation. We have moved away from evaluating only picture discrimination, array size and these other skills out of context. We need to use genuine communication contexts to evaluate communication skills and identify contexts that are interactive, motivating, meaningful and high frequency. By using genuine activities to engage the student while providing sufficient vocabulary with which to interact, we can get a better picture of what they can do currently and what they have the potential to do with sufficient scaffolding.
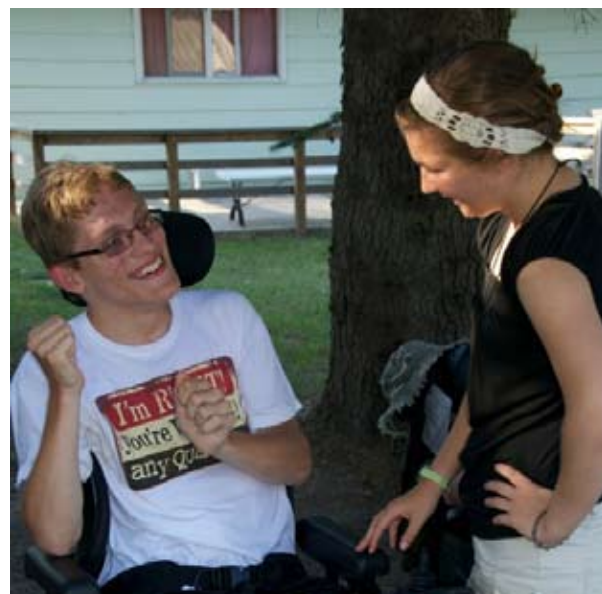
Start with something the student likes to do: blow bubbles, watch a video, talk sports, make something (a picture, block castle, bird house, etc.), read a favorite book, do a make-over and/or manicure, then engage in the student's area of obsession. Within this activity, we still need to gather information about whether the student can discriminate photographs or icons, needs high visual contrast, or can "read" complex visual information. Can they discriminate and use these visual stimuli in arrays of two, four, eight, 20 or 84? Can the student use a single icon to make a response or a sequence of multiple symbols to provide a complete, but telegraphic, message?

So, how do I create multiple activity pages in different apps through which I can move seamlessly during an evaluation and still answer all of those feature questions?

Try choosing some common activities enjoyed by various groups within the population you serve, as well as creating some custom activity pages for specific individual evaluations. Create multiple pages for each activity using different size arrays, language forms, complexity and color adjustment. Do so using different apps, taking advantage of the ways that vocabulary can be organized in each of the more fully functioning AAC apps. Provide the vocabulary needed for requests, functional questions, for responses with expansions, comments and more. In short, create custom evaluation tools with simpler and cheaper apps.

One AAC app that can be used for this purpose is Go Talk Now. It has its own library of realistic pictures and can also access Symbol Stix and Widgets through in-app purchases. You can import your own photos. The array size can vary from four to 25. You can change the background color and text color. You can change the size and placement of images and text and place more than one image in any button. You can also create visual scenes. The buttons on the master or home page can link to which ever page or group of pages you determine. Buttons can link to each activity, to each

array size, to each symbol type, to specific pages for use with users with cortical vision impairment and more. Successive links can arrange the pages however you like.

My custom Go Talk Now home page links to 4-, 8-, 16-, and 25-button main pages, as well as a page set up similar to the 20-button home page for Gateway from Dynavox. Links to some displays are customized for low vision with larger buttons and different colored text and backgrounds. I have created a variety of different core vocabulary pages (four, eight, 15, and 20 core words) to be used within activities, as well as activity choice boards, which lead to activity-specific vocabulary to be used in conjunction with the core words. I start with the largest array size with which the user seems comfortable. When I need to start with four buttons, I try to move quickly to more. Within activity displays, combine core words and some activity-specific fringe. I try to make sure there are words for commenting, in particular, as well as off-topic words the student can use to get out of that activity. For example, my 15-button array contains core words (I, you, more, not, it, what, want, all done), functional responses (help, need break, all done) and links to activities

Photo 1 - Go Talk Now, 16 Array for assessments.

(in this case, toys and movies). (Photo 1) Activity pages have vocabulary for requesting (item, action, continuance, cessation, help) and commenting. I have words like "break," "different," and "go away." There is enough vocabulary for sequencing words. I'm looking at vocabulary use, ability to sequence buttons/words and ability to navigate. I can re-create this page sequence with photos, with symbols and with text alone. I can change background and text color for vision issues.

The Go Talk Now app allows you to create multiple pages, each of which can have a

different number of symbols and symbol sizes, more than one image per button, different symbol and text size on each button and ability to link pages in any format. There is the ability to import images from other sources, including instant Internet searches. The app uses either recorded speech or synthesized speech in any one of a number of different languages. Video clips and audio files can also be added to buttons and scenes.
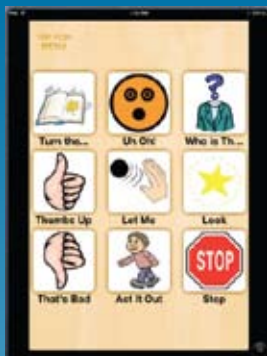
Photo 2 - Sounding board reading activity board.

Another low-cost app (free now) that has some good basic features is Sounding Board. Options are more limited. There can be up to nine buttons per page in 1-, 2-, 4-, 6- and 9-array formats. There are fewer allowances for changing appearance of displays. Like Go Talk Now, it is switch accessible. This app doesn't come with many symbols, but does allow you to import your own images. The ability to link pages for navigation and use of categories makes it more powerful than

it looks at first glance. It is easy to create assessment activities for students who currently have limited skills. (Photo 2) These assessment pages can provide vocabulary for choice making, gaining attention, protesting, requesting items and assistance. They can provide very early, limited core vocabulary; assess ability to find items within category files; and can even allow you to create a very modified pragmatic organized page set with limited functions.

TapSpeak Choice offers 1- to 24-button page options, as well as a keyboard with word prediction. It is switch accessible and offers auditory scanning, even without a switch. You can create multiple custom pages that can link in a variety of navigation paths. This app offers text-to-speech in multiple languages or you can record your own voice. Mayer-Johnson PCS are used or you can import your own images. The app comes preprogramed with several basic vocabulary pages and core word pages with 26, 30, and 50 core words. (Photo 3) On the down side, for assessments, the icon size is set and the black background is set, limiting its potential for assessing users with vision issues.

Lingraphica, makers of dedicated devices for users with aphasia, offers several free apps with lists of words and phrases for use in different contexts. (Photo 4) They are meant to be used when you are out and about without your device. In terms of evaluations, however, they provide some good opportunities to generate simple responses - for free.

Photo 3 - Tap Speak Choice core word board.

Photo 4 - Lingraphica phrase screen

Of course, with only a slightly larger budget, you can use your full-functioning AAC apps for evaluations. The core differences in how they organize and present vocabulary make having a selection of these worthwhile

In my experience, the most widely used are Sono Flex from Tobii, ATI, Touch Chat HD from Saltillo/Silver Kite, Proloquo2Go from AssistiveWare, Speak4Yourself, and LAMP Words for Life from PRC. By using some of these in evaluations, you can take advantage of the near seamless transition between iOS app and dedicated device. Sono Flex mimics some of the software found on Tobii's C-8 and C-12 devices. The Touch Chat apps offer many of the same page sets on Saltillo's Nova Chat device line. The LAMP app offers the Unity 84 page set in three user options.

In **Sono Flex,** activity pages are easily accessed during an assessment while maintaining access to core vocabulary. (Photo 5) The ability to customize activity pages means that you can create pages for specific activities for specific users or for activities you know you always have. Accessing these pages from the "home" page is fast. The large vocabulary available means you have the opportunity to assess genuine message construction and have more options to "push the zone" during assessment by modeling more complex vocabulary or syntax use. It can be a good assessment tool even if you are not considering a Tobii device.

Sono Flex allows you to restrict the number of icons on a page by hiding some, but you cannot change the size of the buttons, limiting usefulness in some evaluations.

Touch Chat HD for iPad contains multiple vocabulary page sets for different types of users. (Photo 6) You can customize the vocabulary for specific users or specific assessment contexts. There are in-app purchases for more complex Word Power/Chat Power pages for more linguistically complex users - or those you think may be headed in that direction soon. It does take a little time to switch between page sets to get different layouts, but, if you plan ahead, you can import pages to create a custom evaluation "user." Most of the core word pages assume the user has some sight words, but you can change this by adding symbols to those buttons beforehand.

Proloquo2Go has been in the forefront of AAC apps. Their v.2 update with core vocabulary pages increased the features tremen-

Photo 5 - Sono Flex bubble activity page.

Photo 6 - Touch Chat multichat screen.

Photo 7 - Proloquo2Go 4x4 core.
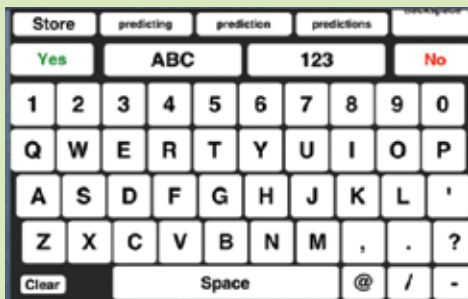

Photo 8 - Proloquo2Go 9x9 core.
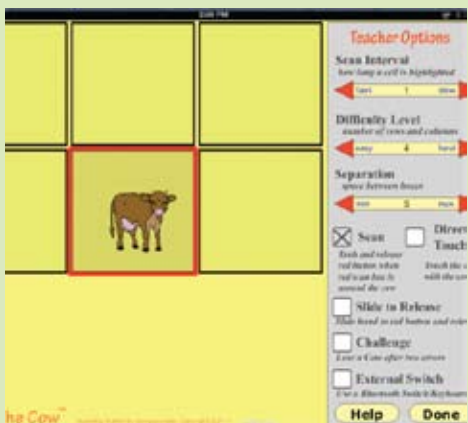

Photo 9 - iMean

Photo 10- Catch the Cow.

dously. It is possible to move seamlessly and almost instantaneously from one display size to another, which can be very advantageous in an evaluation. The app also allows you to change color features for selected buttons or whole pages, to hide buttons as needed and to create an unlimited number of activity pages while maintaining easy access to core vocabulary. (Photos 7 and 8) You can create multiple custom users for evaluation purposes, including core and their "basic communicator" and a text-only user. You can assess users' abilities with morphology and syntax features not available in most AAC apps.

Most importantly for evaluations, I have found it is possible to take your bag of evaluation activities and create custom pages for core and basic users at each grid size, continuing to add vocabulary to the activity, encompassing comments, questions, descriptors prepositions and more.

As you slowly increase the display size during the session without needing to stop and change users or page files, you can continue to model and scaffold responses as the vocabulary expands. Being able to see just how far you can take a student within the scope of even a single evaluation session provides valuable information not always found in AAC reports.

While some of these apps contain keyboard access with word prediction, some users are looking only for text-to-speech use. Some apps to have to try out in assessment sessions include iMean, (Photo 9) which features large buttons and high contrast; Predictable, which allows you to store customized messages in folders for easy access, and the newer Panther set of keyboards, which offer the most accessible keyboards for users with motor access issues. There are, of course, other text-to-speech apps, but these few provide sufficient features for evaluation purposes.

If you know you will be evaluating someone with cortical vision – or other vision issues – Go Talk Now allows you to change background color, number of buttons, text and image size, text color within a single button, and has four different array sizes. Proloquo2Go changes button size with grid display, background and text color can be customized independently, and array sizes expand up to 12x12 grids. Sounding Board offers limited flexibility, but does have 1-, 2-, 3-, 4-, 6- and 9-button arrays. TapSpeak Choice can change array size, but not button size.

Need to evaluate motor access?

Catch the Cow (Photo 10), **Dexteria** and **Touch Tap** (Photo 11) apps all work with a different feature of motor access. If you have iOS 6 or later, take a look at the Guided Access features. The Apple iDevice manuals have good, clear explanations of how to use these to allow access for users with less "refined" fine motor skills.

Remember, iOS devices and AAC apps are not appropriate for every user. However, you can get a lot of appropriate information using them as evaluation tools, without breaking the budget. Please use apps responsibly. Read the RERC White Paper: http:// AAC-rerc.psu.edu/documents/RERC_ mobiledevices_whitepaper_final.pdf

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Porter, G. & Kirkland, J. (1995) Integrating Augmentative and Alternative Communication into Group Programs: Utilizing the Principles of Conductive Education. Melbourne: Spastic Society of Victoria. ∎

Photo 11 - Touch Tap.

ULS + CS4 = Student Success!

Unique Learning System (ULS), by n2y

Intellitool Classroom Suite 4 (CS4), by Cambium Learning Technologies

A winning combination of universal design and a curriculum structured to meet the needs of your most challenging learners

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KATHY STAUGLER, M.A., CCC-SLP, Director of Curriculum, N2Y. During her thirty-five years in education, Kathy worked as a speech-language pathologist, special education teacher, and regional consultant for assistive technology. Her primary focus has been on students with significant disabilities and the development of strategies to enable students to participate, communicate and make progress within their educational programs. Kathy is the author of n2y's Unique Learning System curriculum. **kathy@n2y.com**

Many districts across the country are carefully looking at the technology available in their classrooms to empower students to access the curriculum as independently as possible. The opportunity for direct instruction, as well as benefits of practice, can never be underestimated. A main concern for many districts is those students with the most significant learning challenges.

We all know that the goal is access to age-appropriate materials that are aligned to the common core. Another goal is to have curriculum that is engaging, offers differentiated instruction and allows for teacher creativity and extension activities.

In a collaborative project between n2y and IntelliTools, Inc, a portion of the Unique Curriculum content is now freely available to Unique Learning System (ULS) subscribers who own IntelliTools Classroom Suite (CS4) from Cambium Learning Technologies.

As the companies explored district-wide implementations, the message was loud and clear that districts wanted age-appropriate curriculum that is accessible, aligned to standards and easy to use. Students need standards-based curriculum, and districts need data. Unique Learning System (ULS) and Classroom Suite have collaborated to provide ready-made standards-based activities that address universal design for learning, allowing all students the ability to access age-respectful materials.

The leveled content areas of the Unique Learning System have been incorporated into custom-made CS4 templates. Each month, over 50 ULS lessons are available for download into CS4. Practice is the key to developing and reinforcing skills. Each activity can be explored as whole-class instruction and then independently assigned to students. Districts can easily monitor student progress, and the reports generated address the goals and objectives directed by the IEP and Student Study Team. These two resources provide the winning combination of universal design and a curriculum carefully structured to meet the needs of your most challenging learners.

In this article, we will delve into the curriculum and the tools that enable teachers to truly meet the needs of their students in an engaging, empowering and academic environment.

UNIQUE LEARNING SYSTEM

Unique Learning System is a standards-based curriculum tool designed specifically for students with significant cognitive disabilities. Based on a monthly science or social studies topic, ULS subscribers are able to incorporate reading, writing and mathematics activities within the identified theme.

The ULS K-12 units are designed in grade level bands to address students in elementary, intermediate, middle school and high school levels with 30 new monthly learning lessons that are age respectful, interest appropriate and engaging for all students. Additional grade-band units are available for preschool and transition-aged students. By utilizing differentiated task levels, a range of abilities and needs can be accommodated using the same instructional activity.

Unique curriculum provides a way to include ALL students in the same activity in the same class, with different levels of expectation. Level 1: Students require maximum support. Increasing participation is the main objective. Level 2: Students may require picture support and other direct support in learning and the demonstration of comprehension. Level 3: Students can read text, produce simple writing, perform basic math processes and can independently demonstrate comprehension of modified learning information. Through a ULS profile assessment process, teachers are able to identify the necessary level of support for each individual student and select differentiated materials and activities to accommodate learning activities. The makeup of these classrooms often contains students at each level, and meeting the needs of these learners can often be a challenge without the use of technology for access and practice!

There are also Core lessons that address everyday activities, such as attendance, calendar and schedules. Through the Core activities, classrooms address key transition skills that build on the progressive areas of employability, communication, daily living, self-advocacy and social strategies.

ULS LESSONS AND MATERIALS

Unique Learning System is not just a compilation of lesson plans. Each lesson is accompanied by lesson materials that are uniquely designed to address grade level standards, modified for the learning needs of our students, and presented with clear and concise illustrations to support meaning. Lesson materials are created with SymbolStix, the popular symbol set created by n2y. Each subscriber to ULS has access to this SymbolStix library, with over 13,000 symbols that may be used by teachers to create additional supporting activities or communication boards. Line drawings and photographs are
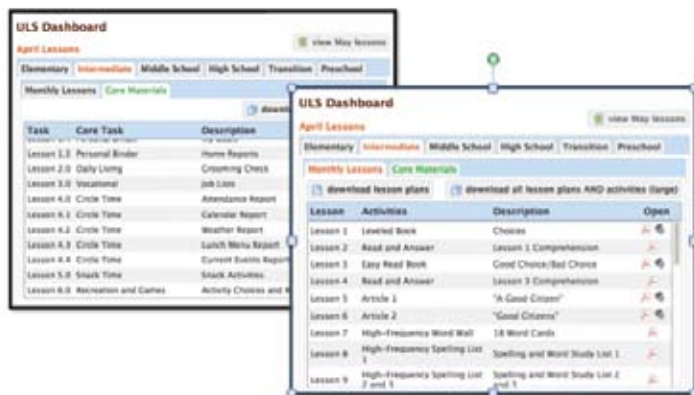
Graphic 1 – screen shots of ULS dashboard with monthly and core lessons in six grade bands.

Graphic 2 – ULS lesson materials include line drawings, photographs and SymbolStix.

also embedded in materials to more accurately depict selected topics of learning.

Each month, the ULS curriculum materials include leveled reading books that are built around the theme. These book levels are aligned to the leveling system that is incorporated in many other reading programs, such as DRA, Guided Reading and Reading A-Z. With the same book presented in different levels, early readers may increase reading skills within the level that meets individual needs and abilities. To increase access, these leveled books are also recreated into Classroom Suite 4 activities. These reading books continue with lessons for building skills in reading comprehension, word study and vocabulary building. At the middle school and high school levels, simple chapter books provide students with content learning and exposure to varied genre. The chapter books are also presented in varying levels of text and symbol-supported formats.

Rounding out the array of lessons are the writing, mathematics, science and social studies lessons and materials. The content of the ULS monthly units provides the comprehensive curriculum that teachers need when teaching students with significant cognitive disabilities.

ULS GPS (GOALS, PREFERENCE AND SKILLS) ASSESSMENTS

ULS provides an assessment center with adapted standards-based tools to gather students' benchmarking data in areas of reading, writing and mathematics. As with the profile, these assessments will guide instructional decisions for individual students, as well as the development of standards-based IEP goals and objectives. Teachers are able to make data-informed decisions on the skill areas that should be addressed in both core and intervention activities. Progress may be monitored when the assessment is administered at the beginning, middle and end of the school year. Daily and weekly data monitoring may be completed within the instructional tasks with the ULS materials or within many of the supplemental activities provided with CS4.

CLASSROOM SUITE 4

Classroom Suite 4 provides a flexible learning environment through a computer software program to address the individual physical, cognitive and learning needs of students. With supported access through touch screen, mouse access, IntelliKeys keyboard and switch access, students are able to independently participate in learning activities. The flexibility of Classroom Suite 4 facilitates a universal design for learning approach through multiple means of representation, expression and engagement.

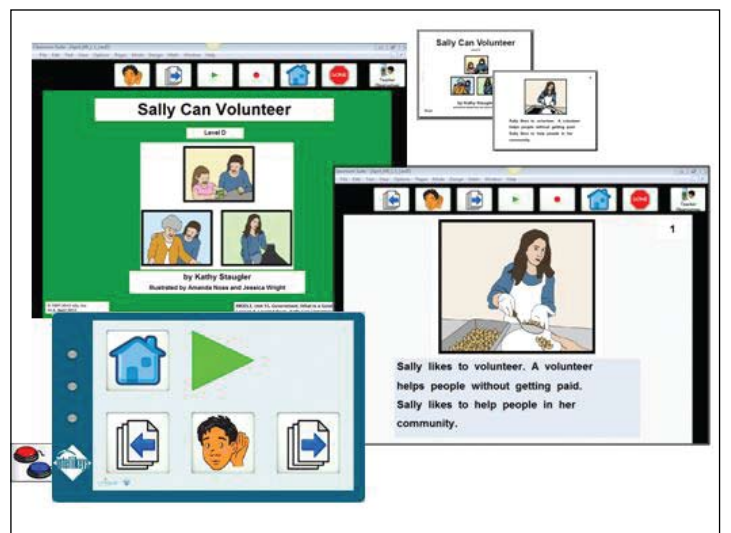### PRIMARY SKILLS BUILDERS TEMPLATES

As IntelliTools viewed the scope and sequence of the Unique Learning System, there was a specific pattern that surfaced. The stories and the comprehension questions followed a simple-to-use, but also differentiated, pattern of presentation. The monthly PDF files are consistent and presented a nice opportunity for a series of 12 templates. I discussed with Kathy Staugler, the author of ULS, how she felt the books could be enhanced with the

Graphic 3 – ULS provides leveled books that align to typical leveling systems.

Graphic 4 – ULS assessment center.

Graphic 5 - PDF of a ULS Middle School level book that is recreated in CS4.

technology component. She felt that adding the ability to record a student's voice would encourage language; it can be enabled by an individual, choral group or switch and read back. We discussed the ability to have anecdotal data built into the templates so a teacher or aide could take notes that would be generated with report data.

We collaborated with Dan Herlihy to create a series of templates in CS4 that would be accessible, easy to edit and could accommodate the three levels of students. Dan was able to script these files so that not only are they functional for adapting ULS activities, but we find that they are being used for creating alternate assessment tasks in districts across the country! Access is a high priority, and teachers are finding great success using these files on interactive white boards. Students can access them as well, using a switch, touch screen or IntelliKeys. There are one or more overlays attached to each file to accommodate scanning and direct select access. This opportunity for access to written text, independence and the ability to answer are a magic opportunity for skill building. We developed a color coding system within the templates so that each template might be color coded, based on level. This makes it easier for teachers and aides to quickly identify student levels. We also added a button with a "Q" on many of the templates. When the green "Q" button is pressed, the order of the answer options changes. The answers are never in the same order. On paper, we are limited to a set order. With technology, we are able to encourage students to focus on content and comprehension, not the order of answers on the pages each time they see it presented. When the files are downloaded from the n2y ULS website each month, the Level 1 activities are yellow, the Level 2 are blue and the Level 3 are green.

Graphic 5 shows the PDF of a ULS Middle School level book that is recreated in CS4. The IntelliKeys overlay has the buttons necessary for students to access the book, as well as switches for students who can activate a switch to hear the stories.
See graphic 5 – screen shots of ULS book activities adapted into CS4 with custom overlay.

COMPREHENSION AND VOCABULARY DEVELOPMENT

An important component of any good curriculum is assessment and support. There are several different ways that the ULS presents the comprehension questions. These two examples are for the Level 2 student. The Level 2 learner gains support from text and graphics. The templates are designed to encourage students to listen to the text, as well as see the graphics for support. Here is an example of fill-in-the blank and multiple choice questions. Technology can offer immediate feedback, answer checking and auditory feedback. With technology, we can have just one question on a page. We can also have text read out loud and collect the data if the student chooses the wrong answer and then checks their work. We use this to promote attention to detail and independence.

## ANECDOTAL COMMENTS AND DATA REPORT

Once an activity is assigned to an individual student, the data collection is really quite easy. The student logs into the program to do his/her work, and, once the task is done, the file is turned
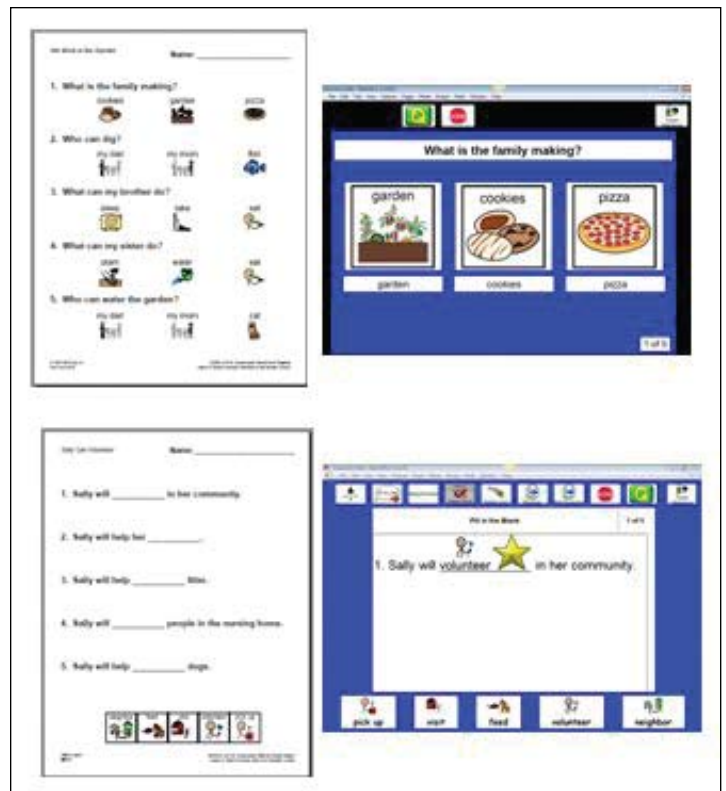
Graphic 6: ULS comprehension exercises adapted into CS4 using Comprehension L2 template and Fill-in-the-blanks template.

Graphic 7: Data report showing date, time on task and student answers. It also shows that the student corrected his response after self-checking work.
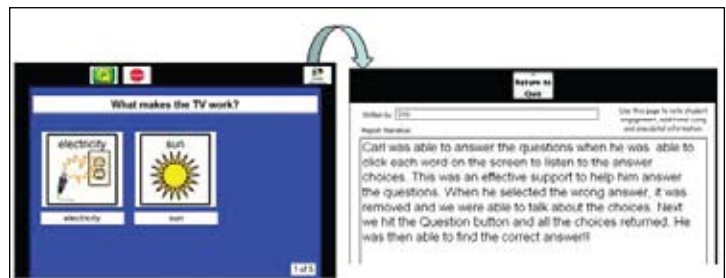
Graphic 8: CS4 activity with incorrect response removed. On the right is an example of anecdotal data report that recreates the coaching and support given to student.

in. The teacher can log into the program at any time and generate the data report. The report includes the date, time on task and scoring, as well as the correct and incorrect responses listed.

See graphic 7: Screenshot of data report showing date, time on task and student answers. It also shows that the student corrected his response after self- checking work.

While the student is engaged in the activity, there is a button that the teacher or assistant can access to report any anecdotal data that reflects observations of student performance. These reports then become part of the data collection process. They can be printed at any time and are often used for IEP and Student Study meetings. This is in addition to the GPS online data that teachers complete online on the ULS website. In the example below, when the student chooses the incorrect response, it will disappear. This is often a teachable moment; the teacher can do direct instruction and then click the "Q" button at the top of the page. The choices will reappear, but in a different order. The rationale is that we are addressing comprehension and not location! Our clever students often learn the location of the correct response if the comprehension sheet is reassigned. With technology, we can avoid the location memorization factor and really focus on attention to detail and comprehension.

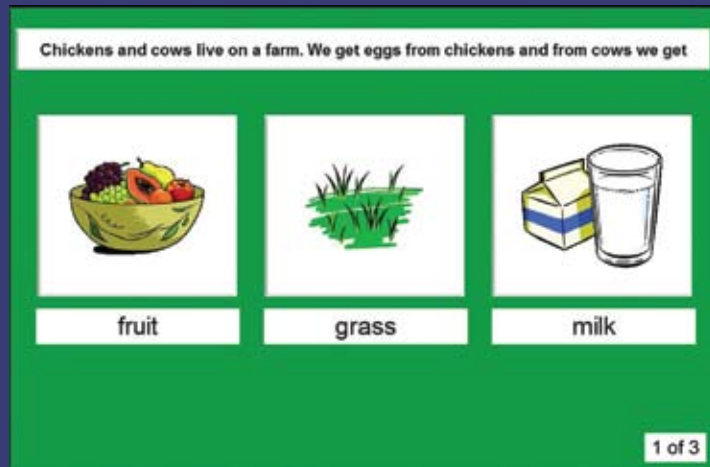## ADDRESSING THE ACCESS OF THE LEVEL 1 STUDENTS

Students at Level 1 require maximum supports. Increasing participation is the main objective. Using technology, we track the student engagement and note if they activate their switch. If the student does not activate the switch, there is a button on the screen that the aide or teacher uses the mouse to select. This will note that the student did not activate the switch in the data report. In addition, there is also the Teacher Observation button where you can note the student's response and perhaps comment that they understood the answer, but just did not use the switch to respond. The overly is one large switch or a switch can be attached to the IntelliKeys.

IMPORTING THE MONTHLY ACTIVITIES

Monthly ULS Units are downloaded from ULS Dashboard. On the right of the Dashboard is the Monthly Tools window. Simply click on the Supporting Files and locate the CS4 icon. From this location, teachers can download their respective

grade-band and Core activities that have been adapted into CS4. The next steps are to open Classroom Suite and select Import. A folder is created in CS4 and the files for the unit imported. The files have a screen shot of the activity, as well as the lesson name and level. Here is the distinctive color coding system. The Level 1 activities are yellow, Level 2 activities are blue (two and blue rhyme) and Level 3 activities are green. Each month, over 50 activities are adapted, ready for use and ready to be assigned to students.

SUPPLEMENTAL FILES AND CURRICULUM ADAPTATION

If you are looking for more activities and the ability to adapt files from the supplemental units, there are several options. One option is to check the IntelliTools Activity Exchange. There are over 4,000 activities and often you can search and find activities that might address the content, vocabulary and concepts introduced in the monthly unit. Another option is to use the Primary Skills Builders Templates. There are 12 templates that include two different book templates, comprehension for one, two or three choices and two multiple choice templates (ABC or ABCD), sequencing pictures (good for recipes, story sequences and sequencing text), spelling, math problems and fill-in-the-blanks.

The collaborative efforts of n2y and IntelliTools facilitate the perfect merger of high quality, standard-based instructional content with universally designed access for students with significant cognitive disabilities. Completed with the data gathering processes of both tools, student progress in academic learning will certainly equal SUCCESS!

PRODUCT INFORMATION

IntelliTools, Inc.
IntelliTools Classroom Suite 4 - $345
IntelliKeys Keyboard - $395
Overlay Maker - $139.95
Primary Skills Builders - $75
www.intellitools.com
www.cambiumlearning.com

News2You
Unique Learning System – 12 month subscription (includes SymbolStix) - $429
SymbolStix Online – 12 month subscription - $49
News-2-You - 12 month subscription (includes SymbolStix) - $149
www.n2y.com ∎

Graphic 9: ULS Level 1 comprehension exercise adapted into CS4 using Comprehension L1 template for single switch user. Overlay transforms IntelliKeys into one big switch.

Graphic 10: ULS website with focus on locating the CS4 activities. Users download from the Monthly Tools/Supporting Files, and save their respective Grade Band. Next step is to open CS4 Published folder and select Import into CS4.

Graphic 11: Classroom Suite Templates folder showing the 12 Primary Skills Builders Templates.

Adults with Autism

No one knows for sure – no one really knows how many people in the United States have autism because gathering the numbers has been a youthful, piecemealed task. The CDC established a baseline for the US in 2000 when they formed the Autism and Developmental Disabilities Monitoring Network (ADDM). They based their findings on 14 selected locations with children and their evaluation records up to 8 years of age, which is the baseline for identified peak prevalence. Still, at best, the true tally is going to be an approximation for a long time as they work through the process.

VAL STILWELL, MSCS, works with a research lab and software developer, Cognitopia Software, in Eugene, Oregon. Their work is focused on developing software and Web-based tools that support self-management for individuals with cognitive disabilities.

Here's what is speculated: That 1 percent of the children between 3 and 7 years of age in the United States have autism, although that number is based on 1 out of every 88 children. A new number, based on including children up to 17 years of age suggests 1 out of every 50 school-aged children have autism, so the overall population percentage number shifts up again. It also benchmarks at least a 78 percent increase from 2007, with some of the increase, but not all, due to better diagnosis in children ages 6 to 13, but again, no one really knows the true numbers.

While several reports state that the majority of those with autism are under the age of 18, immediate and collaborative attention should be given to construct adequate support services for the new wave of adults with autism that's destined to integrate with our communities. Because the identification process has been recent, we have an even more vague assessment of the current numbers of adults with autism over the age of 22. Although several reports are saying there are around 88,000 adults with autism, we truly don't know how many there are. We can't accurately count them, but we can observe the successes and failures surrounding those who have been identified.

Currently, the annual cost of autism falls somewhere between $126 to $137 billion – a number that has tripled since 2006, and the future projection is worrisome. In the next ten years, the annual cost is estimated to rise to $200-$400 billion because each year, between now and then, there are an estimated 50,000 youth with autism transitioning, at age 21, from an educational setting to an adulthood setting.

Most of the youth transitioning will live with their parents who will become the caregivers, facilitators, teachers, supporters and sole resource center for them. Group home settings, according to Dr. Jim Ball, a Board Certified Behavior Analyst and Executive Chair for the Board of Directors for The Autism Society, are less than optimal for adults with autism for several reasons, such as social challenges, cost, and even the level of training for the caregivers. Other reports reveal that the monthly Social Security disability payments received by those who don't work are a far cry from being enough to cover vocational coaches, therapeutic day programs or other self-sufficiency interventions. It's not uncommon to hear or read statements from parents who say that once their child with autism turned 22, it was as if they fell off a cliff or just disappeared in the system.

EVEN THOUGH AWARENESS IS ON THE RISE, GOOD SUPPORT SERVICES FOR ADULTS WITH AUTISM, THAT FOCUS ON INTEGRATION, REMAIN A SCARCITY

One state-wide study conducted in Florida by the Center for Autism and Related Disabilities (CARD) found that, of 200 families surveyed who had children between the ages of 18-22 with autism, none of them had knowledge of transition services, 63 percent needed help with their daily living and 78 percent did not know about agencies or professionals who could help them find work. While 74 percent of them wanted to work, only 19 percent of this population was working. Researchers Gerhardt and Holmes found that unless a job is secured shortly thereafter, youth who leave their educational training have a 70 percent chance of not being gainfully employed throughout their lives.

Another report that surveyed 66 mothers of young adults with autism showed that only 6 percent of the young adults were working in competitive employment and, of those, individuals with both intellectual disabilities (ID) and autism were three times as likely to be participating in those jobs as those without ID. The remainder of adults with autism is either unemployed or underemployed in situations, such as sheltered or facility-based workshops, where a significant percentage of them report the desire to work in a community-based job.

Digging even further reveals several reports and research demonstrating that integrated employment versus sheltered workshop or facility-based work increases hours and wages and directly correlates to more typical job acquisition, better self-esteem, social relationships and self-determination – all benefits for this population, yet, a high percentage of individuals continue to funnel into facility or shelter-based work situations, if any at all.

After all this being said, this is not to say that there is no hope for those with autism as they transition into adulthood – even though, nationally, resources and priorities have not yet realigned to expand employment, there are a growing number of individual states and advocates seeking to tie federal funding to and incorporate the best practices concepts from organizations, such as Employment First, whose philosophy and design include models of integrated and community-based employment as desired outcomes for individuals with disabilities.

On a smaller and more local scale, opportunities to find and model gems in the employment system that rise above the rest are also available. There are organizations employing incredible advocates and specialists using their talents to somehow reach across invisible barriers and repeatedly bring successful inclusion and integration to fruition for those with disabilities.

One such gifted and dedicated advocate, named Anna Baki, is an employment specialist,

working since 2009, for a nonprofit organization in Oregon called McKenzie Personnel Systems, located in the Willamette Valley. The mission of McKenzie Personnel Systems is "to provide individualized assistance for people with disabilities seeking employment, inclusion and recognition in our community," and Baki lives up to it well. Baki successfully places, on average, a person with disabilities in a community-based, inclusive job every 21 business days.

In an interview with her, when asked about the biggest challenge when finding employment for people with disabilities, she quickly responded that employers don't pick up a phone and call her. She must take it upon herself to initiate the outreach and, quite often, diligently push to meet with the busy company decision makers who are also frequently the business owners.

As well, Baki iterates, many of her clients have autism, which can create a challenge for coworkers, who don't understand about working with an individual who has underdeveloped social skills, in a workplace where interacting with social situations can be put to the test.

In view of these challenges, Baki continues to successfully find work for her clients. In 42 months, she's made a whopping 42 placements. The secret sauce in Baki's recipe for employment is simple, yet straightforward. She begins by learning as much as she can about her clients. In the breadth of her discovery mission, she focuses on who they are, what they like to do, including what they dream of doing, and their biggest passions.

Then smartly, Baki seeks out the companies in the community that best align with the interests of her client and begins her committed process to secure the best fitting job possible. "When I work off the premise that a person is well-aligned with a job, I find that I can tap into that person's intrinsic desires and interest, which keeps them engaged," says Baki. "When the employer recognizes that they have a dedicated employee who wants to work for them, it becomes a win-win situation. Employers simply want people who truly want to work for them."

Baki goes after the hidden job market – the unannounced job openings. "If a job has been advertised, it may already be too late," says Baki. "There are so many people looking for work, that for an individual with disabilities to apply in the most common competitive way is dreadfully ineffective. Instead," says Baki, "I go directly to the company and talk about my client's aligned passions and desires, which, in addition to their abilities, helps the decision maker see the benefits of hiring such a dedicated person and they often find a job in their company for my client. The result is an employee who strat-

egizes how to be the best employee they can be. What company doesn't want that?"

After a job placement, the task of coaching, advocating and overseeing moves to the job trainers that work for McKenzie Personnel Systems, and Baki focuses on getting jobs for the rest of her job-seeking clients. If her job placements are successful, there may even be more opportunities for increased wages, responsibilities, self-determination and self-esteem in her clients' futures – again, a win-win situation.

But needs don't stop with employment, as the Expert Think Tank for Advancing the Futures for Adults With Autism points out. Two other very important needs of this population are housing and community integration. As Autism Speaks and other research points out, the majority of costs related to autism are being spent on non-medical support services for adults who can no longer live at home and are either unemployed or underemployed – which is the majority of adults with autism.

Research by David Mandell, Sc.D., of the University of Pennsylvania and co researcher Martin Knapp, Ph.D., of the London School of Economics estimates lifetime costs for a person with autism at about $1.4 million, and if they have and intellectual disability, the cost rises to $2.3 million. These costs were calculated using 2009 numbers, when the autism figures were 1 in 110. Recently those numbers have been significantly increased to match 2012 figures of 1 in 88.

According to a survey of more than 450 children and adults with autism by the National Autistic Society, 70 percent of the adults were unable to live independently. Of that group, 49 percent live with family members and 32 percent live in residential care facilities. At least11 percent say they have had a nervous breakdown. Even after at least two autism interventions during their childhood, 65 percent continue having difficulties making friends.

This type of data clearly shows the burden on quality of life for adults with autism who are in great need of treatment programs that build self-esteem, confidence, self-determination, self-perception and independence. As this disparity becomes more obvious, the programs showing degrees of success also start to surface. Through a national initiative-based competition called AFAA Applauds by Advancing Futures for Adults with Autism, six winning organization will receive a $5,000 grant to develop a video highlighting the successes of their supportive programs.

This year's winners, Chapel Haven from Connecticut, Eden Autism Services in New Jersey, Family Adult and Child Therapies in California, Partnerships with Industry in California, and The Friendship Circle from California, share the spotlight of success. Christina Whalen, vice president and director of the Vocational and

Life Skills Academy at the Southwest Autism Research and Resource Center in Phoenix says, "AFAA Applauds shines a bright light on the most innovative programs in the country to assist organizations in developing services that will enrich the lives of individuals with autism."

Programs and activities that work and don't work all eventually surface for their successes and failures. Somewhere, someone is taking notice and recording it all for analysis. Statistics, research, oversight and even technology all play a significant role for both a better quality of life for adults with autism and our communities in their entirety. Autism touches millions of families in our communities. When communities acknowledge fruitful input, interactions and the support that adults with autism can contribute in return, they develop a much finer list of qualities and characteristics that directly support sustainability. Adults with autism are a distinct part of our communities – why would we not work hard to bring a quality of life for them too?

Employment, housing and social activities are critical to quality of life. In a micro view, if we take a page out of Baki's book, learn about the individuals and their passions, and align work that engages their interests, we can begin to build a foothold for individuals for their self-determination, esteem, and confidence. Expanding to a macro view, if we willingly model successful programs of support, such as those highlighted by the diligence of AFAA Applauds and Employment First, we may actually have a path towards a more sustainable future for adults with autism in our communities.

Our population is changing and the needs that come with it affect us all. We don't live in a vacuum where the issues and challenges happen to someone else – we're talking about our neighbors, friends and, quite often, our own families. The discovery of exactly how many people have autism is still a ways off. But the discovery of how to build working models that support, integrate and benefit from participating with each and every individual with autism, to draw out the best they can become, should be a priority on everyone's every list.

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Autism Now

US National Library of Medicine

Social Security Administration

Gerhardt & Holmes

StateData Employment Report by The Institute For Community Inclusion

Advancing the Futures for Adults with Autism

Autism Speaks ∎

Post Secondary

This article focuses on skills that benefit all students; however, these skills can be particularly important for students with disabilities as they learn to manage their disability in a new academic environment. Higher education places demands on students to schedule their personal and academic lives and demonstrate the discipline to follow the schedule they set out (Field, 2003).

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Preparing for the
Post-Secondary Environment:
Strategies and Technology Supporting Organizational Skills

One of the most important academic skills to enable success in the post-secondary environment is the ability to organize academic work. This means that a student needs to develop effective time management and organizational skills; to be able to consistently record assignment due dates and test dates in an agenda; and to learn to effectively schedule their time for the reading, studying and writing assignments needed to support the hours of classroom attendance. Many students, particularly those with learning disabilities or AD/HD, struggle to effectively schedule their time and need someone to show them. Fortunately, there are a number of skills that can be learned early in a student's academic career that will help them master organizing their academic work.

THE IMPORTANCE OF LEARNING HOW TO ORGANIZE ACADEMIC WORK IN HIGH SCHOOL

Ideally, students who plan to attend college or university need to learn and practice organizational skills in high school. There are many reasons why it is beneficial for a student to learn how to organize their academic work in high school prior to attending university:

- Learning organizational skills in high school will give them more time to learn and practice how to organize academic work.

- Students often comment that it would be easier for them in the post-secondary environment if they had learned in high school how to be organized.

- Being able to organize their academic work is a skill that will be used immediately when starting post-secondary education. Since there is an immediate increase in academic demands, it is more challenging for students to learn the skill quickly when trying to manage other aspects of the transition from high school to higher education.

- University/college is expensive, so students want to make the most of their educational experience. Learning how to organize academic work prior to entry may reduce financial losses.

WHY DO STUDENTS NEED TO LEARN TO ORGANIZE THEIR ACADEMIC WORK IN ORDER TO BE SUCCESSFUL IN POST-SECONDARY STUDIES?

The reason for having to organize their academic work has largely to do with the nature of university studies: university is less structured than high school and this means that students need to impose their own structure to make certain their academic work gets completed (Field, 2003). The only way to make certain the work gets done is for students to know:

- What they have to do (attend class, read, study and write assignments)
- How they have to do it (breaking large tasks into smaller tasks)
- When they have to do it (the deadlines for each task)

There are many advantages to learning how to organize academic work. The following list includes the top reasons that current university students offer for the importance of learning to organize academic work:

- No one else will organize their work for them
- It keeps them up to date with a large volume of reading
- It helps them to submit assignments on time, thereby avoiding an academic penalty for being late
- It prevents them from missing assignments and tests/exams
- This helps them to study ahead of time for tests/exams
- It gets them to remember to attend class and arrive on time
- It helps students feel in control and less stressed, as they know all of the tasks/dates/etc., and prevents vague feelings that they may have forgotten something

STRATEGIES TO SUPPORT ORGANIZING ACADEMIC WORK

Learning strategies, coupled with assistive technology, are a powerful approach to organize post-secondary academic work. This section of the article will highlight some of the key strategies and technology that high school students can start putting in place immediately with little guidance from teachers or parents.

1. **Choose an agenda:** there are different types of agendas that students can use to track their tasks – paper agendas or electronic agendas. Many students have cell phones or electronic devices, such as computers or iPods, that offer an electronic calendar to help organize their time. Portable devices enable students to enter information as they receive it (for example, when a due date is announced in class, the student can input it immediately into their electronic device). Electronic devices can also provide notifications or alarms to remind students about their scheduled task, meeting, etc. Please see below for more information on technology that can be used for time management and organization of academic work. It becomes too complicated to be using an electronic agenda and a paper agenda because students have to look in two different places for the information; appointments may overlap because it was entered in one agenda but not the other, and scheduled events/tasks may be missed because students may forget to bring both agendas with them. If the agenda the student selected doesn't work for them after they've tried it for a while, they can always switch to a different type of agenda.

2. **Use only one agenda for all tasks:** Rather than keeping a high school agenda booklet and a separate calendar for social, work, sports events and healthcare appointments, it is critical to amalgamate all the information into one agenda.

3. **Calculate how much time is in a week:** Many students complain that they don't have enough time in a week to complete everything that needs to get done. Students learn very quickly that there is sufficient time in the week to get things accomplished once they've been shown how much time is available. Here is the calculation:

   Seven days per week times 24 hours in a day equals 168 hours per week to eat, sleep, attend class, read, study, write assignments, go out with friends, spend time with family and have some personal time.

4. **Determine where the time goes:** Figure out what takes up time on a weekly basis. Below is a list of activities many students need to schedule (some of them may not apply or other activities may need to be added). Once students fill out how much time the activities take, they'll see that they have plenty of time left to read, study and work on assignments.

5. **Enter the classes into a calendar:**

Activity	Time it takes
Sleeping	
Traveling to and from school	
Attending class	
Working at a part-time or full-time job	
Exercising/working out	
Meeting with Friends	
Family commitments	
Other	

6. **Enter reading/studying time into a calendar:**

7. **Enter all other weekly activities into a calendar:** Now that the academic work is scheduled, all the other activities that need to get done can be scheduled, such as spending time with friends, working at a part-time job, etc.

8. **Review the calendar on a daily basis:** This will help students to know what activity is scheduled for the day.

9. **Make changes to the calendar as necessary:** Schedules are meant to be flexible, so students may need to move activities around or add new activities as they come up.

10. **Students need to get help from someone if they aren't able to follow their schedule consistently:** Developing a schedule is only part of managing time well. Students also need to be able to follow the schedule they make. Students who procrastinate may need to get help from a teacher, parent or mentor to help overcome procrastination.
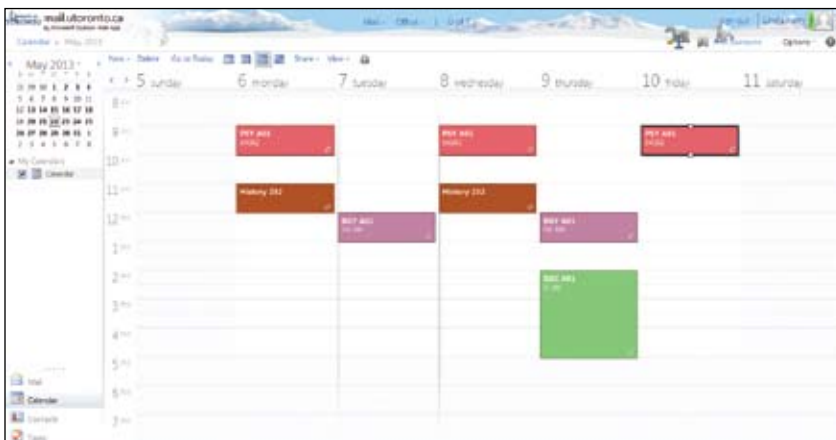

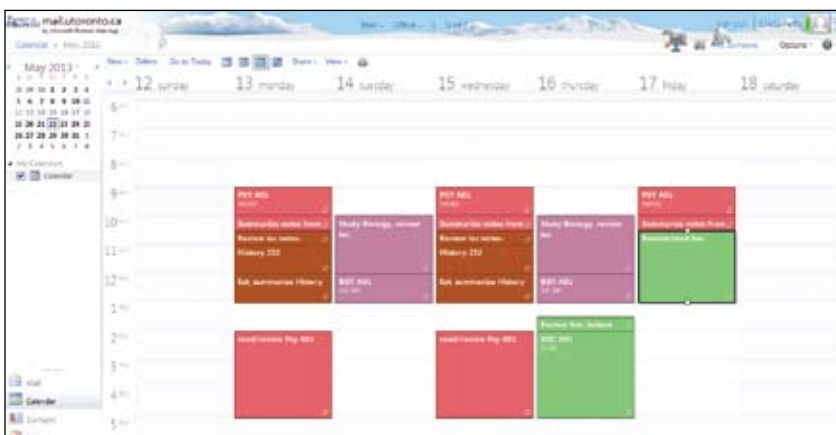Figure 1: Example of class times enterd into the Outlook Web App.

Figure 2: Example of class times plus reading and study times entered into the Outlook Web App.

TECHNOLOGY TO SUPPORT ORGANIZING ACADEMIC WORK

Note: some examples are included specifically related to University of Toronto students, but students from other post-secondary schools should look into similar options available at their own campuses.

Software/mobile phone calendaring supports

At our office, we train students to use features of Microsoft Outlook to set up recurring appointments for the term for their classes, color-coded by subject, as noted in step 5, above. Then, for each subject, students add two to three hours of reading and study time per each hour spent in lecture. Tutorials and other course-related appointments are also added and color-coded according to subject, as shown in Figure 3, below. Using a full computer keyboard and mouse, students find that entering the information, setting recurrence and adjusting timing goes very quickly. Alternatively, we promote the use of a Microsoft Outlook Web application provided free to University of Toronto students with their mail.utoronto.ca email account. Using the calendar feature in this mail program, students can access their schedule online at any time and set it up with similar features to MS Outlook, as noted above. The Microsoft Outlook Web application will also send reminders to Black-Berry, Android or Apple phones. The use of visual/audible software/smartphone reminders help the student remember their commitments and tasks as they are scheduled into the calendar, and counteract procrastination.

The next step is to add the everyday needs of commuting, meals, part-time jobs and regular gatherings with family and friends, to keep the schedule realistic to everyday needs, as noted in step 7, above. Students can then add the one-time appointments for healthcare appointments, meetings and social events to the calendar.

As the student obtains information about tests, projects, papers and exams, these are scheduled in as appointments with corresponding color coding. The student can then review their "normal" schedule and decide where to schedule or re-shuffle study times for tests and exams.

For assignments, we recommend the use of The Assignment Calculator, which is a free online tool created by the Centre for Teaching and Learning at the University of Toronto Scarborough and is based on the Assignment Calculator by the University of Minnesota Libraries. The purpose of this calculator is to help students break down their assignment or project into manageable steps, direct them to useful guides and services (particularly the Library

and Writing Centres). University of Toronto students can log in and supply an email address, and the Assignment Calculator will email them reminders and links on the schedule calculated1. The student can also copy and paste tasks outlined by the assignment calculator into their schedule, to help them plan time to accomplish each task required for the assignment.

While the final schedule, with its colorful blocks of allocated time, may appear very full, it can provide students with a sense of control, as they are aware of all of the needs in the weeks and months ahead and can adjust the various blocks of time and tasks to meet their deadlines and goals. This may prevent the stress of always feeling behind or that they have forgotten something. It also enables them to enjoy their free time, knowing that they have completed their assignments and made their deadlines, and that time is allocated for upcoming events

The calendar can then be synchronized with smartphones, iPods or iPads to enable the students to add new dates and information on the fly, as they receive it, and also to check their time commitments on their calendar before agreeing to additional activities. Microsoft Outlook is also useful for listing tasks, contacts and email, and will also synchronize these with smartphones and other computers in use to keep the information always at hand.

Use of apps

There are organizational applications for smartphones/iPod/iPad available for download that are in the free to $25 price range (for example, iHomework, iStudiez Lite and Informant H for the Apple family of devices, AnyDo for the Android phones). These are much less expensive than purchasing an Office suite to get MS Outlook, however, have the disadvantage of a smaller screen and small keyboard or touch screen interface, making it difficult to make entries, set up recurrences, etc. You can also synchronize smartphone calendar software to a Google, Microsoft or Yahoo account with a calendar for ease of entry on desktop or laptop computer.

Begin at high school

High school students are encouraged to begin using electronic time management aids. Explore the free calendars available through Google, Microsoft and Yahoo accounts.

While these free software programs do include advertising and some content tracking features, they can usually be set up with similar reminders, color coding, synchronizing and recurrence as MS Outlook. A student could then log in to the calendar website on a school computer or from their smartphone to update their calendar with upcoming deadlines, events, etc. and then view the same calendar from their home computer. This relieves the pressure of managing the flow of information on assignment deadlines and test dates between home and school. Using technological supports ensures that the information is captured at the time it is given to the student, and that is readily accessible on multiple platforms.

RESOURCES TO LEARN MORE ABOUT TIME MANAGEMENT AND ORGANIZATION

It's important for high school students to know that there are a number of supports available to them in order to learn time management and organizational skills. Here are some resources available to students to support learning these skills:

• Participate in high school courses that teach time management and organizational skills

• Work one-on-one with special education teachers in high school

• Find a mentor (perhaps a parent, older sibling, relative or family friend) that is highly organized and ask them for advice

• Hire a professional coach, like a life coach or ADHD coach, who can teach organizational skills (there will be a fee charged by a coach)

• Attend workshops offered by local organizations (for example, in Ontario, the Learning Disability Association of Ontario and its chapters. The LDAO website can be found at this link: http://www.ldao.ca/)

• Participate in transition programs offered by post-secondary institutions (many of these programs teach time management and organizational skills)

If it wasn't possible to learn time management and organization skills in high school or if students want to improve them further, students can use academic services available at their post-secondary institution

• There are a number of websites that provide information about how to develop time management and organizational skills. A website to start with would be the Study Guides and Strategies website

• Books dedicated to teaching about time management and organizational skills would also be a good resource to use. Some books to begin with are: Manage Your Time; Power Over Time; Student Time Manager; or Learning for Success
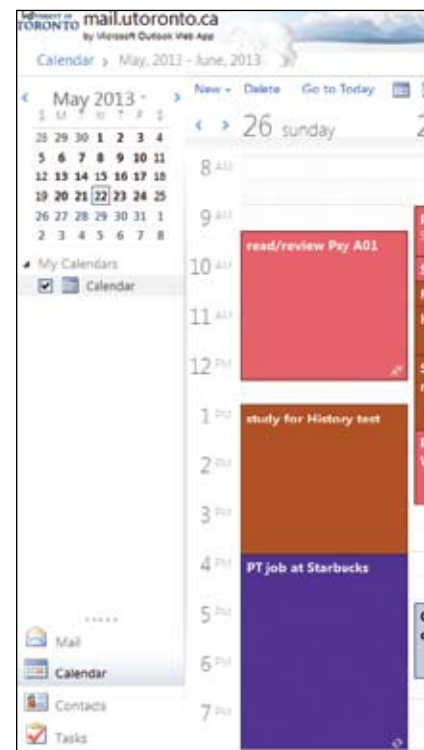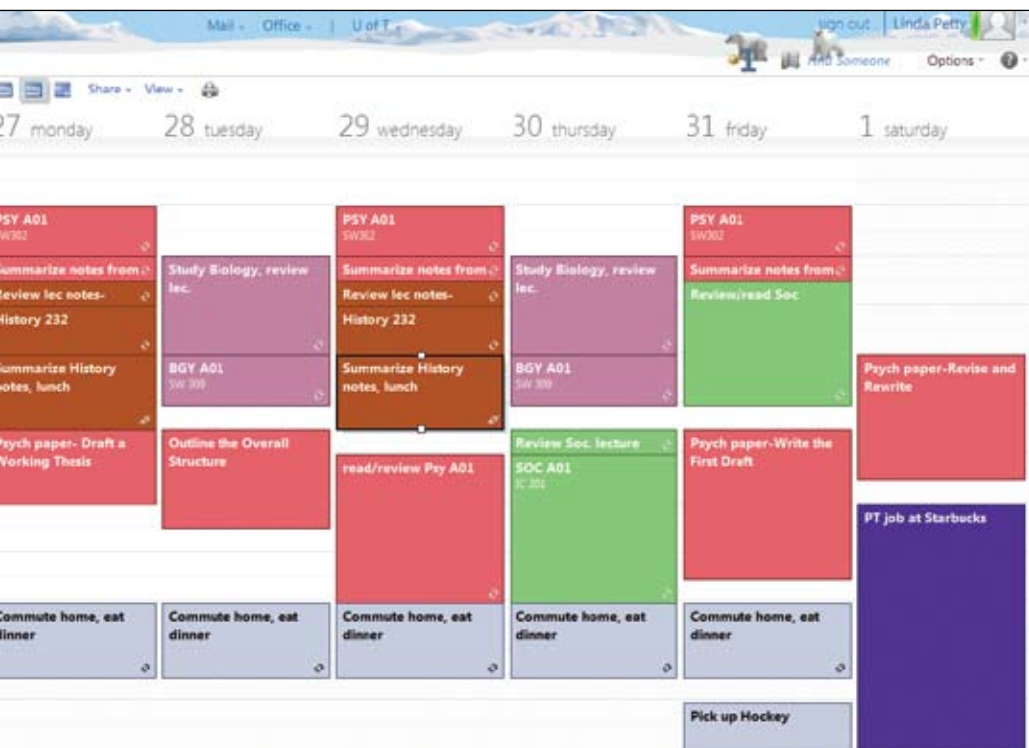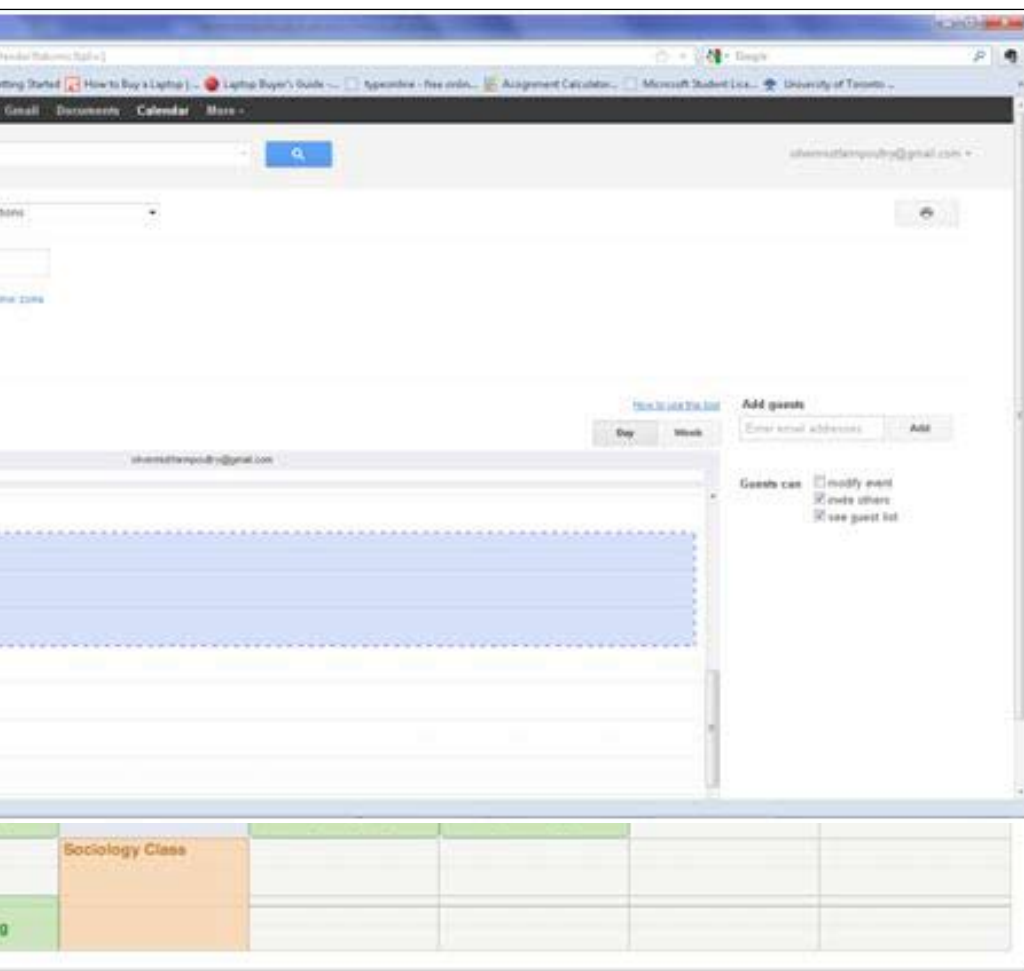

Figure 3: Example of a completed

Figure 4: Setting up an exam event in

schedule, with additions from the Assignment calculator - Outlook Web App.

Google Calendar.

IN CONCLUSION

This article outlined a range of learning strategies and technical tools available to support students in learning to organize their academic work and manage their time effectively. The overall goal is to enable students to be prepared and on time for homework, assignments, tests and exams, decreasing stress levels and ensuring work is completed successfully. With mentoring, modeling and technical training support, students can successfully master these skills at a high school level and arrive at their post-secondary institution well prepared to successfully take on the additional workload in a less structured environment.

1.The University of Minnesota Libraries' Appointment Calendar is open source and can be downloaded for customization from the Appointment Calendar's open source page.

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University of Toronto Assignment Calculator: http://ctl.utsc.utoronto.ca/assignmentcal/

University of Minnesota Assignment Calculator: https://www.lib.umn.edu/apps/ac/

University of Minnesota Libraries: https://www.lib.umn.edu/

Study Guides and Strategies: http://www.studygs.net/

SNOW: Education, Access and You: http://snow.idrc.ocad.ca/ ∎

AAC Evaluations and Feature-Matching

DEBBY MCBRIDE, MS., CCC-SLP, has 28 years experience working in most areas of augmentative communication. Her broad and unique perspective comes from her variety of clinical experiences specializing in AAC, a clinical tools developer, a national trainer, and previously, an AAC device distributor. She has worked in educational and medical settings and currently works as an AAC specialist both in an outpatient setting and in consulting. She is an experienced presenter, having presented educational sessions at national, regional, and local conferences and workshops. She is the founder and president of AAC TechConnect, Inc.
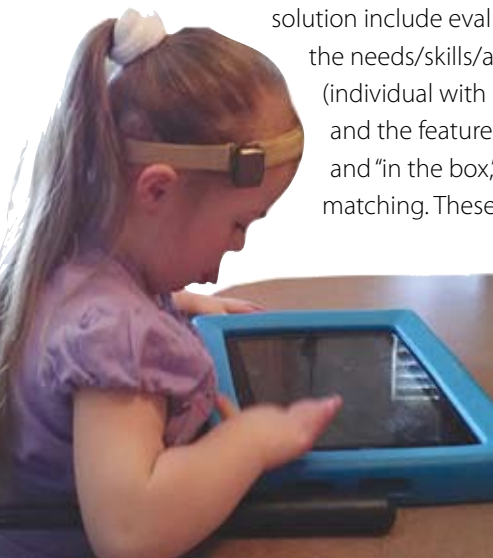
With their recent introduction, the use of iPads and other mobile technology for AAC has expanded the AAC field

This heightened interest can both benefit and confuse the augmentative communication solutions for individuals with complex communication needs (CCN). The focus can too easily be on the "box" and not on how it can be used most effectively for communication purposes. It has been noted that assessment, individualization and ongoing services are often lacking when those in need of AAC are obtaining new mobile technologies. We are reminded that an AAC tool is no good if it does not meet the individualized needs of the person being served. (Sennott, 2011). These changes in the field of AAC are best captured in an RERC white paper, where it is stated "we want to become more knowledgeable as to what options exist and make informed purchasing decisions that best support communication." (RERC white paper).

The two key components to successfully selecting an AAC solution include evaluation information about the needs/skills/abilities of the communicator (individual with complex communication needs) and the features required both "on the box" and "in the box," commonly known as feature-matching. These "boxes" can either be AAC devices, also known as speech generating devices (SGDs) or AAC apps created for use on iPads or other mobile technology.

EVALUATIONS AND FEATURE-MATCHING

Initially, it is important to review the principal components of the augmentative communication assessment, starting with the needs/abilities and skills of the individual with CCN. The principle components of assessment include identifying participation patterns and communication needs, evaluating potential to utilize AAC systems and/or devices, planning and implementing interventions for today and tomorrow, and evaluating intervention effectiveness (Beukelman & Miranda, 2005).

This is more easily said than done since the nature of an individual's complex communication needs are not able to be standardized, as it is in other areas of speech language pathology. There are several evidence-based resources available (see Free Tools/Resources listed later on), but documentation of the process usually falls upon the evaluators to either create or locate the appropriate resources to use or modify. There are also times when the lack of knowledge, experience or training makes it difficult for this to easily happen. A recent survey of 550 SLPs revealed that the majority of them lacked knowledge, direct experience and competence in AT and AAC. (ATIA)

In order to more effectively and efficiently complete an evaluation, the ACES Module was created to assist in navigating the assessment process. This evidence-based

module brings together the required components of an evaluation into forms and templates that lead to appropriate feature matching. Feature-matching will help to clarify the similarities and differences between various AAC devices and apps for mobile technology, and the focus is then more on what is "in the box" that can best meet the communication needs of the individual.

Feature-matching (Shane & Costello, 1994) provides a framework for clinical decision making rather than choosing tools and strategies based upon media coverage, public testimonials or recommendations from well-meaning friends and family. (Gosnell). There are important features of SGDs to consider, such as durability, access options, sensory needs, environmental controls, language representation, speech options/quality and

hardware features (Rush & Helling, 2011). Use of these same features can assist in not only which type of AAC solution (device or apps on mobile technology) but which option is best when compared with similar technology types.

Figure 1 - ACES: Communication Needs Inventory Form

Communication Functions:	How (facial, gestures, sign, vocalize, verbalize, pics) (PECS, board, device, etc.) Rate:	Identify / prioritize needs
Attend to environment	1 2 3 4 5 NA / DK	
Attend to others	1 2 3 4 5 NA / DK	
Express wants/needs	1 2 3 4 5 NA / DK	
Make requests/choices	1 2 3 4 5 NA / DK	
Indicate to continue /stop activity/ situation (more/all done, etc.)	1 2 3 4 5 NA / DK	
Request attention / help	1 2 3 4 5 NA / DK	
Protest appropriately	1 2 3 4 5 NA / DK	
Greet others	1 2 3 4 5 NA / DK	
Answer/ask questions	1 2 3 4 5 NA / DK	
Direct actions of others	1 2 3 4 5 NA / DK	
Initiate, maintain, end interactions/ conversations	1 2 3 4 5 NA / DK	
Make comments	1 2 3 4 5 NA / DK	
Relate personal experiences/events	1 2 3 4 5 NA / DK	
Express sense of humor	1 2 3 4 5 NA / DK	
Repair communication breakdown (how?)	1 2 3 4 5 NA / DK	
Express novel thoughts/ideas	1 2 3 4 5 NA / DK	

Likes:		Comments:
1.	1 2 3 4 5 NA / DK	
2.	1 2 3 4 5 NA / DK	
3.	1 2 3 4 5 NA / DK	
4.	1 2 3 4 5 NA / DK	
5.	1 2 3 4 5 NA / DK	

Rating Scale:
1 = Not effective
2 = Somewhat effective
4 = Effective
4 = Very effective
NA / DK = Not applicable, don't know.

Any behavior concerns? (Circle: frustration, hitting, grabbing, crying, etc.) and if so, give examples. Consider communication "reasons" (attention, desires, continue/ terminate activity/ situation, assistance, etc.)

ACES MODULE

The ACES Module is a set of forms and templates created by AAC TechConnect that follows the AAC assessment process as outlined in multiple sources including those previously mentioned. They are meant to be used as needed, whether to provide guidance or to enhance an evaluator's process, and can be used individually or as a whole. The forms provided in the ACES Module can take you from the first step of gathering information to the last step of implementation. Several of those forms will be reviewed here to illustrate the important components of an AAC evaluation and device/app decision-making process and are available for download from www.aacTechConnect. com (go to ACES Module 2013 under Tools/ Resources for a copy of the described forms, including additional forms in the Module not included in this article).

I. ACES: COMMUNICATION NEEDS INVENTORY (see figure 1)

This form reviews the communication functions that the communicator is currently using and how they are communicating. It can be used in the following ways:

- Use it to prioritize communication goals, along with expanding means of communication. For example, if someone is signing "more" or "all-done," it might be a goal to include a voice output solution, combining them with a noun (e.g. more + drink).

- Use it to expand use of various communication forms and functions. Many times, there is a focus on wants/needs; it is easy to also include other functions such as commenting (e.g. like/don't like), describing, combining short phrases, etc.

- Use it as a way to identify behaviors that are observed (crying, hitting, etc.). Look at the situation and see if the communicator is trying to communicate (e.g. wanting attention/help, to continue/stop an activity/situation, etc.)

- Identify high-interest activities/situations to stimulate fun and functional communication.

II. ACES: THE COMMUNICATOR: SKILLS AND ABILITIES (see figure 2)

This form summarizes basic skills and abilities based on evaluation results and observations in the following areas:

- Receptive communication and cognitive learning style

- Current expressive communication modes

- Sensory (vision and hearing)

- Physical (fine motor and gross motor), along with modifications/accessories that are required

- Access (direct, head-pointing, eye gaze, scanning, etc.) and switch access/location, if required, along with other modifications, such as a stylus, keyguards, etc.

- This form can be used to summarize these skills and then can be used to more clearly demonstrate the important features that are required for either an AAC device or iPad (or other mobile technology). For example, at this time, the access features are not nearly as available on an iPad as on other AAC devices.

III. ACES: DEVICE / AAC APP FEATURES (see figure 3)

This form helps to identify the features that are required "in the box" and helps to identify which communication application is best to meet the required communicator's needs/skills/abilities. The application can either be "in" a communication device or an iPad. If you need further assistance deciding on which "box" is best, then look at the next form, IV Considerations for Choosing AAC Devices or Apps. Areas that are designated on this features form (which is set on the background of a device "outline") can help make sure that important features are considered and include the following (with examples given):

- Access options are included in figure two.

- Symbols (including digitized pictures, icons, words, spelling)

Figure 2: The Person: Skills and Features to Consider for AT

Copyright © 2010 AAC TechConnect, Inc.

Figure 3: The Device / AAC App Features to Consider

Copyright ©2011 AAC TechConnect, Inc.

- Message formulation (e.g. single key messages vs. ability to sequence phrases/sentences)
- Language representation/organization (e.g. single-meaning, multi-meaning or core vocabulary)
- Navigation/page changes (e.g. number of levels can do, use of scrolling/swiping, linked buttons)
- Message key (e.g. number of keys, size of keys)
- Action of message key (e.g. hold time, click)
- Screen size (small, medium large)
- Screen action (touch, swipe, scroll, use as switch)
- Voice/speech (e.g. synthesized, digitized, foreign language, child/woman/man)
- Message display (e.g. words, pictures)
- Rate enhancement (e.g. words, pictures, premade vocabulary)
- Device functions/access (e.g. environmental controls, computer)
- Keyboard (e.g. layout, onscreen, plug-in)
- Type of device / app to try

IV. ACES: CONSIDERATIONS FOR CHOOSING AAC DEVICES OR AAC APPS (see figure 4)

This form can help you identify pros and cons of selecting "which type of box" (AAC apps, dynamic display devices, static display devices, other options) from the various considerations that are listed. Some categories for using these for brainstorming options include:

- Language/linguistic needs: One example taken from the form is the need to consider growth and consistency using one app or device that can grow with an individual versus the use of multiple apps for communication where symbols, organization and other significant features may change.
- Additional hardware considerations. One important example is the need for and use of a switch for access and known benefits/limitations of the AAC apps you are considering.
- Other uses: One question to decide is do you need / want other apps or communication software for different purposes to be easily available? And if so, which ones.
- Other factors: A consideration listed here asks if the individual is able to use a device for multiple purposes – or is it distracting? Another one is the consideration of funding and support provided for implementation.

ONLINE RESOURCES AND DECISION-MAKING TOOLS FROM AAC TECHCONNECT:

I. FREE TOOLS/RESOURCES:

- Forms & Templates: Includes forms/templates that have been submitted that others use and are available for download. Be sure to submit forms your organization uses so we can all share.
- Tools & Resources: A dynamic list of well-known resources to assist in your AAC evaluations. They include websites, evaluation tools, books, frameworks and other valuable resources. If you have other suggestions of what to add, please email that information to us.
- What's New: Go to this page to see the newest AAC apps and devices.
- AAC Apps and Devices: Get the latest information on the devices (download flyers) and AAC apps (direct links to iTunes for information).

II. ONLINE CLINICAL TOOLS - Free 30-day trial provided with promo code CTG2013 which gives you access to both the AAC Apps Assistant and the AAC Device Assistant

- AAC Apps Assistant. This online clinical tool, developed by AAC TechConnect, helps you sort through the myriad of choices for AAC apps. There are well over 250 AAC apps at this time, and AAC TechConnect has helped to simplify your choices. In order to effectively use this online clinical tool, one needs to understand the features required for the AAC app that best, determined in an AAC evaluation.

  - You can do a BASIC SEARCH by selecting the "category" of AAC apps, as defined by similar features. These categories include: Robust; More Features, Starter, Simpler and Spelling. You can download an updated list of popular apps in these categories (at no charge) at the bottom of the AAC Apps Assistant page.
  - You can also do an ADVANCED SEARCH, which allows you to answer questions about some basic required features, and this clinical tool will search for apps with these features and provide them to you in a side-by-side comparison chart.

AAC Device Assistant

This online clinical tool helps you sort thru a variety of AAC device choices that is a hardware/software solution provided by AAC manufacturers (also called SGDs). There are over 75 AAC devices available at this time, and AAC TechConnect has provided the means for you to search and compare devices in a side-by-side comparison chart. There are two ways to search for this information.

- You can simply select the devices that you want in a side-by-side comparison without answering questions about features.
- You start out by answering basic questions that will then search for you in one of the following categories: Dynamic Display, Digitized Devices (also known as static devices), Text-to-Speech and Integrated Systems (devices that are also computers).

Note: Communication software in dynamic display devices (SGDs) provides a large number of features that can differentiate them from AAC apps significantly. The AAC apps are typically limited in some or numerous features, depending on the complexity or simplicity of the apps provided.

Additionally, it is important to understand the language / linguistic needs of the individual in order to best determine the benefits and appropriateness of the premade vocabulary and language representation systems provided. You might find the Rubric for Evaluating the Language of

Figure 4: Consideration for Choosing AAC Devices or AAC Apps

Priorities	Considerations		AAC Apps/ iDevice	Dynamic Display	Static Display	Other	Notes
	Identified Communication needs/ barriers (see other form)						
	Language/linguistic needs						
	Symbols used (consistency vs. varied symbols)						
	Amount of vocabulary provided						
	Amount of customizing required						
	Organization consistency (Unity, InterAACT, WordPower, Saltillo, Word+)						
	Growth and consistency vs. relearning						
	Ease/difficulty of programming						
	Need generative options (maybe with grammatical components)						
	Language systems (research-based; follow developmental model)						
	Additional hardware considerations						
	Need other access methods (scan, headpointing, etc.)						
	Mounting options						
	Durability & portability						
	Voice output & carrying options						
	Other uses						
	Educational / learning activities						
	Leisure, entertainment						
	Organization / picture scheduling						
	Behavior management						
	Computer access						
	Other						
	Other factors						
	Communicator's preference						
	Based on known technology and familiarity						
	Ability to use same device / multiple purposes						
	Trial before purchase/recommending						
	Funding (personal purchase, already available, medical 3rd party, i.e. Medicaid/care, insurance etc.)						
	Support available (representatives, online, phone, etc.)						
	All-inclusive vs. "put-together" issues						
	Initial success for AAC vs. not successful; i.e. disinterest						

Apps for AAC (RELAAACs) helpful when evaluating various apps (PrAACtically Speaking). Another form is the Language/ Linguistic form in the ACES module, which allows you to compare various components in both AAC devices/apps in a side-by-side comparison (AAC TechConnect).

CONCLUSION

Though the new possibilities and enthusiasm for AAC options can be as exciting as they are daunting, it is important for all stakeholders to keep the focus on providing the "best choice of the AAC voice" for the individual with complex communication needs. The pace of change in technology that affects the AAC field requires clarity of established methods of practice that are evidence-based, as well as an openness to new and appropriate options.

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EYE GAZE
TECHNOLOGY

Eye tracking commonly refers to the technique used to record and measure eye movements. To address the application of eye tracking technology, which enables individuals within the disabled community and within the mainstream community to control computers, we will specifically be discussing the PCEye Go and Pro, which are ultraportable clip-on eye tracking devices from TobiiATI. The PCEye eye control unit flawlessly converts eye movement to a mouse cursor on your computer, and attaches to many retail laptop and desktop monitors.

ELIZABETH WALKER is a regional sales consultant for TobiiATI. She has extensive experience within the field of augmentative and alternative communication as well as assistive technology. She is a retired speech/language pathologist. She can be contacted via email at betsy.walker@tobiiati.com

THE USE OF EYE GAZE
TECHNOLOGY IS EXPANDING

Specifically, eye tracking has been used for a wide variety of research within the scientific community and in usability and market research to analyze vision, human behavior, user experiences and consumer responses. It is also been used in open and emerging markets, like the automotive industry and the gaming industry. It is also being applied to individuals with disabilities, specifically those with motor impairments and communication disabilities, such as cerebral palsy, ALS, Rett Syndrome, SMA or locked in syndrome, etc. For individuals with these types of disabili-

ties, eye gaze technology is an alternative way to control their environments, offering direct means of access as the individual points directly at the item without having to wait for options to be presented.

Prior to this application's introduction, control of communication devices for individuals with motor limitations was typically achieved through indirect access methods that included switches and scanning. These access methods were inefficient and time consuming.

As technology improves, we now have eye gaze components that are smaller and more

portable and that clip onto computers, tablets and laptops. With these eye gaze devices, the use of this technology is being expanded to enable individuals who may not need a communication device but who do need to control their environments, such as individuals with spinal cord injuries and ergonomic injuries. Examples of these types of devices are the PCEye Go and Pro.

The PCEye comes in two sizes, the PCEye Go and the PCEye Pro. The PCEye Go fits on your laptop or on a smaller computer screen. The larger PCEye Pro docks under larger

desktop screens and is particularly suitable for those who need to display and access a lot of information simultaneously. Both devices attach and detach from the computer using a magnetic mounting bracket and USB connection. The device is lightweight and small enough to be easily transported and used with different computers, for example, at home, at work or in school. The price of the PCEye Go is $3,900 and the price for the PCEye Pro is $4,200. This represents a reduction in price from the $6,900 for the first generation PCEye.

HOW IT
WORKS

Using only your eyes to control the environment requires the movement of the eyes themselves. With the PCEye Go or Pro clip-on eye gaze device, there are a camera and infrared light sources. The infrared light sources send light to the eye that is reflected back to the camera, which is then used to identify the reflection of the light source on the cornea and in the pupil. Two factors are important in being successful with eye tracking: proper positioning of the device and obtaining an accurate calibration. In order for the eye tracking device to track, it must be able to see the individual's eyes. On the PCEye Go and Pro are track status boxes that help the individual, as well as caregivers, to determine if the device is positioned properly.

The PCEye Go and Pro have one of the largest track boxes on the market, which enables over 98 percent of the individuals who could benefit from eye control tech-

nology to use eye control, regardless of eye color, glasses, contact lenses, lighting conditions or head movements.

The next step in setting up the PCEye Go or Pro is to calibrate the device specifically for the user. It is important to calibrate the eye tracking system for each individual end user as everyone's eyes are unique. To assist with calibration, there are many features that can be adjusted, like the speed, the image

used and the size of the image. The calibration is stored, meaning it only needs to be performed once. In addition, it is possible for many people to use the same PCEye Go or Pro as the device has the capability of creating and saving multiple profiles, making the PCEye particularly useful for agencies, such as schools and rehabilitation settings.

READY TO START

Once the device has been calibrated, the end user is ready to perform tasks, like surfing the Web; participating in social media, such as Facebook and Twitter; sending and receiving text and email messages; making telephone calls and opening and controlling third party software. These tasks can be accomplished using the PCEye through the use of mouse emulation and/or gaze interaction.

The first devices manufactured by Tobii employed mouse emulation as the only way for an end user to control his desktop and perform computer functions. With mouse emulation, the user's eyes become the computer's mouse. As the user's eyes move, the cursor begins to move. When the user wants to make a selection, they either look at the target for a period of time, called dwell; blink their eyes to select; or look at the target while activating a switch to select.

In addition, there is a control panel that allows the user to activate the mouse function – left click, right click, single click, double click, move the mouse without making a selection, pause and magnify items on the screen.

To facilitate scrolling in windows when it is needed, scroll buttons appear automatically in the upper right corner in any object that can be scrolled.

Users can enter text by using an on-screen keyboard – included with the PCEye Go and Pro.

In the fall of 2012, Tobii introduced a revolutionary way for individuals to be hands free in the control of their computers – Gaze Interaction. Tobii Gaze Interaction gave computer users with limited motor skills the ability to use their hands in a faster, more intuitive and accurate way of using eye gaze to pinpoint a selection on a computer screen and interact with and control their computer. It works by allowing users to zoom in on their targets by first selecting the mouse function that they wish to perform by looking at a toolbar that is on the right hand side of the screen. Once the mouse function is selected, the user then moves to the second step in the process – as they keep their focus on the target, gaze selection will start to zoom in on the user's target and will then perform the selected mouse or computer function

The advantage of gaze interaction over mouse emulation is the ability to make selections without getting unwanted clicks. It also prevents the following of the mouse cursor with your gaze as opposed to the controlling of it (there is no floating mouse cursor in Gaze Interaction).

The on-screen keyboards provided for use with the PCEye Go and Pro are compatible with several third party software products that can be used with either mouse emulation or gaze selection, such as Communicator Software from Tobii and the Reach Software from Applied Human Factors. In addition, Tobii has created custom keyboards for some frequently used software products. These keyboards were developed through the use of Tobii Communicator Software. In order to use these keyboards, the user would need to have Tobii Communicator installed. These custom setups are available for download from Pagesetcentral.com, which is the Web sharing site for Tobii. The keyboards include interfaces to assist users in using book readers, Skype and Microsoft Office applications, like PowerPoint. In addition, there are custom setups created for some of the frequently used educational software programs, like Classroom Suite from Intellitools and Kurweil software.

CONCLUSION

Tobii's PCEye Go and Pro are powerful devices that do not slow down your computer or keep you from staying up to date with your technology. They allow you to switch computers or change locations – their low weight, robust design and carrying case make traveling simple. With the inclusion of mouse emulation and gaze selection, users can perform tasks like controlling surroundings, pursuing interests and education, as well as staying entertained. They are also valuable tools for helping re-enter the workplace, staying in touch with friends and family, meeting new people and interacting with children.

Through the use of devices like the PCEye Pro and Go, individuals with disabilities now have the ability to improve their quality of life through greater independence and privacy, which in turn can lead to enhanced emotional well-being and the ability to communicate with friends and loved ones

without the need for constant supervision and aid.

Personal independence does not have to vanish as a result of a disability. Tobii eye tracking technology and access to a computer give you the power to take control and live life to the fullest. Case in point, Stephen Murray, a world-class BMX rider who sustained a severe spinal cord injury, uses his PCEye to run the daily operations of the Athlete Recovery Fund, a nonprofit dedicated to aiding other extreme athletes who have suffered debilitating injuries. With the robust eye-control capabilities of his PCEye, Murray is able to send emails to family and friends, make phone calls, chat on Skype, review personal bank accounts, log in to Facebook, communicate with his ARF business partner and browse the Internet to keep up on current happenings in BMX.

To date, the Tobii PCEye has enhanced the quality of life for more than 8,000 individuals with disabilities throughout the world. Current Tobii PCEye users are using their devices to create and sell paintings, write books and even play soccer with their children.

The PCEye Go and Pro mark the beginning of the expansion of the use of eye gaze technology to control laptops, desktops and tablet computers.

For information about the PCEye Go and Pro and the other devices and software from TobiiATI, please contact them at TobiiATI, 333 Elm Street, Dedham, MA 02026, by phone at 800-793-9227 or through the website at www.tobiiati.com. ∎

31st Annual CONFERENCE

Closing The Gap
OCTOBER 9-11, 2013
Preconference Workshops
October 7-8, 2013
DoubleTree by Hilton Hotel Bloomington
MINNEAPOLIS, MINNESOTA

The best educational assistive technology conference in North America

Assistive Technology in Special Education and Rehabilitation

A TRADITION OF EXCELLENCE

Over the years, the annual Closing The Gap Conference has become known as the best educational assistive technology conference in North America.

Through shared best practices and research, networking, training, hands-on opportunities and an expansive exhibit hall, participants have found information, strategies and products that have proven beneficial and, oftentimes, unsurpassed for use in their work and in their lives.

The 31st Annual Conference runs Monday, October 7th through Friday, October 11th and is held in Minneapolis, Minnesota.

Preconference workshops are scheduled for Monday and Tuesday, October 7th and 8th, and the Conference officially begins with a preview of the exhibits on Tuesday evening, followed by three days of presentations, hands-on labs and exhibitions.

Varied levels of participation are available, with registration options listed on page 37.

Inside the next few pages, you will find detailed listings of the 19 all-day preconference workshops, exhibitors contracted to date and academic credit/CEU, air travel, hotel and registration information. The titles and descriptions of the one- and two-hour presentations, including hands-on labs and iPad workshops, and the additional contracted exhibitors will be available online and in print in August.

With multiple registration options available, numerous and diverse discounts, group savings and preconference workshop bundling, we invite you to participate and encourage you to bring your team!

Closing The Gap promises to work hard to insure that the content and learning opportunities are many, varied and exceptional throughout the conference week.

19 PRECONFERENCE WORKSHOPS

Closing The Gap preconference workshops are all-day, in-depth workshops presented by experts in the field in very practical and effective ways. The content and delivery are unsurpassed and the resulting outcomes for persons with disabilities are overwhelmingly positive and bright.

Many of this year's workshops are new, some advanced, with state-of-the-art technologies being addressed and best practices demonstrated and taught.

OVER 200 PRESENTATION HOURS

Practical and expert-lead presentations during the Closing The Gap Conference will include over 200 one- and two-hour sessions that describe and/or demonstrate successful applications of assistive technology for persons with disabilities. Select handouts will be available onsite and online following the conference.

COMMERCIAL EXHIBITS

An impressive and varied scope of AT products will be on display and will range from low tech to high tech and represent solutions for all disabilities and ages. Daily regular AND exclusive hours are scheduled to give participants quality time to explore, try, learn and ask questions, first-hand and face-to-face.

A second brochure detailing the over 200 presentation hours will be available on or about August 1, 2013. Details will also be posted at our website.

LEARN MORE AT WWW.CLOSINGTHEGAP.COM

WHO SHOULD ATTEND?

ANYONE interested in finding practical and readily available AT solutions for ALL disabilities, mild to significant, infant through adult.

- Teachers
- Administrators
- Speech Language Pathologists
- AT Consultants
- Physical Therapists
- Occupational Therapists
- Technology Specialists
- Consumers
- Parents
- Students

WHY ATTEND?

Participants will have numerous and unique opportunities to learn, first-hand, from experts in the field, network, ask questions, and see and try the latest AT products and strategies available today.

CONFERENCE SCHEDULE

Sunday, October 6
5:00 pm - 8:00 pm ..Registration Desk Open

Monday, October 7
7:00 am - 8:00 pm ..Registration Desk Open
8:00 am - 4:30 pm ....Preconference Workshops

Tuesday, October 8
7:00 am - 9:00 pm ..Registration Desk Open
8:00 am - 4:30 pm ....Preconference Workshops
5:30 pm - 8:00 pm ....Preview of Exhibits

Wednesday, October 9
7:00 am - 5:30 pm ..Registration Desk Open
8:00 am - 4:30 pm ....Presentations
*10:00 am - 5:30 pm..... Commercial Exhibits

Thursday, October 10
7:30 am - 5:30 pm ..Registration Desk Open
8:00 am - 4:30 pm ....Presentations
*10:00 am - 5:30 pm..... Commercial Exhibits

Friday, October 11
7:30 am - 2:00 pm ...Registration Desk Open
8:00 am - 1:30 pm ....Presentations
9:00 am - 1:30 pm .... Commercial Exhibits
*The exhibit floor will close for an exhibitor break from 12:30 pm - 1:30 pm.

AAC INSTITUTE CEUS

AAC Institute will again provide CEUs for both the conference and pre-conference workshops. CEUs will be offered for all sessions without charge. AAC Institute CEUs that relate to the practice of speech-language pathology and audiology can be used for ASHA certification maintenance. RESNA accepts AAC Institute CEUs for ATP/ATS credential maintenance. Most state licensure systems accept AAC Institute CEUs or other forms of self-reporting. Pre-conference work-

shops are offered for up to 1.4 CEUs. The conference is offered for up to 2.0 CEUs. For additional information visit www.aacinstitute.org/CEUs.

CEU details and self-reporting forms will be available at the Closing The Gap registration desk located on the second floor of the DoubleTree.

CERTIFICATES OF ATTENDANCE

Closing The Gap-issued Certificates of Attendance for conference participation will be available upon request at no additional fee. All preconference workshop participants will receive a Closing The Gap-issued, presenter-signed Certificate of Preconference Workshop Attendance upon completion of the workshop.

ACADEMIC CREDIT

Graduate-level academic credit from Hamline University is available for a variety of levels of conference attendance. Participants will have the option of one, two or three full semester credits.

ONE FULL SEMESTER CREDIT
Cost: $150

Requirements:
- 12 contact hours
- An outside assignment

(12 contact hours require conference participation or two preconference workshops.)

TWO FULL SEMESTER CREDITS
Cost: $300

Requirements:
- 24 contact hours
- An outside assignment

(24 contact hours require conference participation AND at least one preconference workshop.)

THREE FULL SEMESTER CREDITS
Cost: $450

Requirements:
- 36 contact hours
- An outside assignment

(36 contact hours require conference participation Wednesday - Friday AND two preconference workshops.)

EXCEPTIONAL OPPORTUNITIES TO LEARN AND SAVE!

- **Workshop registration includes the Preview of Exhibits on Tuesday evening.**

- **BUNDLED PRICING is available - take two workshops and save $75!**

- **CEUs, Academic Graduate-level Credit and Certificates of Attendance are available for workshop participation.**

PRECONFERENCE WORKSHOPS

Monday and Tuesday, October 7-8, 2013

COME, NETWORK, LEARN — Each workshop is conducted by a nationally recognized leader in the field, providing in-depth professional skills necessary to successfully implement assistive technology in the lives of persons with disabilities.

Monday and Tuesday, October 7-8, 2013
8:00 am - 4:30 pm

PC-1 Multi-Modal Communication Strategies for Children Who Have Complex Communication Needs (Official PODD Course) - Two-Day Workshop

Children who are non-speaking or have only limited speech, in addition to other challenges, often struggle to interact and communicate. This may include children who have physical disabilities, multiple disabilities, sensory processing challenges, limited social interaction skills and/or a range of cognitive limitations and learning difficulties. This two-day workshop will demonstrate the use of a Pragmatic Organization Dynamic Display (PODD) approach developed by Gayle Porter (Melbourne, Australia). Generic templates for multi-page "light tech" communication books have been carefully designed to support genuine communication for a variety of functions throughout the day. These templates can be customized for a range of access methods and other individual needs. Come learn strategies for creating multi-modal language learning environments that provide receptive models and expressive opportunities for language development. Learn strategies for teaching and using PODD with children and their communication partners. Videos and case examples will be shared. Participants will have an opportunity for hands-on practice with PODD communication books. There is a $17 fee for the PODD course manual in addition to the $475 cost of the two-day workshop.

Linda J. Burkhart, B.S., is a Special Educator/ Augmentative Communication Specialist/ Technology Integration Specialist in private practice, Eldersburg, MD, and Dale Gardner Fox, M.S., RPT, is an Assistive Technology Consultant, Hampshire Educational Collaborative, CCATT, Northampton, MA.

Monday, October 7, 2013
8:00 am - 4:30 pm

PC-2 Literacy Tools to Improve Writing and Reading Comprehension of Social and Abstract Concepts in Students with Autism: Technologies for Android, PC and iPad

In this workshop, participants will learn how to recognize the comprehension impairments of students with ASD in single word, sentence and narrative contexts and to remediate these deficits using technology. Participants will learn how to use a variety of tools on mobile tablets, SmartBoards and PCs that will allow them to construct appropriate comprehension therapies. Specific examples include building explicit visualizations of complex word meanings, providing word context through visual maps, using predictive questions and highlighting to extract intention and emotion of author and character and other inferencing tasks. A focus will be on mind mapping tools and multimedia software to make abstract information more concrete (VizZle, Inspiration, book creators, mobile education apps, StoryPals, Abilipad, Draft Builder, Livescribe pen, Opposites, Synonym and Idiom plus Intel and Google Play apps). In addition, a number of tools to improve reading and writing comprehension, text-to-speech, word prediction, images and speech-to-text, will be presented. Participants are strongly encouraged to bring their own wireless-capable computer or Android or iOS device (with flash browser, such as Rover or Puffin for iPads), and with iBook Creator or Creative Book Builder, Voice Dream, a text-to-speech engine, such as IVONA or SVOX, and a mind mapping app (e.g., Inspiration), all preinstalled. Mobile Education's Conversation Builder, Abilipad, StoryPals, Blio voices and iScroll are optional to install.

Katharina I. Boser, Ph.D., is the President, Individual Differences in Learning, and the Technology Coordinator, Glenelg Country School, Ellicott City, MD.

PC-3 Accessible Assessments

Educational reform efforts continue to emphasize the importance of standardized assessment as an accountability measure of student learning. However, the accessibility of standardized assessments continues to be a significant problem that impacts students with disabilities. The purpose of this workshop is to provide participants with an overview of contemporary assessment issues in American schools. Hands-on activities will allow participants to create formative assessments for the classroom to engage students in test-preparation exercises. In addition, we will review the current status of national outcome assessment work being conducted by PARCC, Smarter Balanced and Dynamic Learning Maps in preparation for national HIGH STAKES assessments that will begin in 2014-2015. Participants will receive a resource guide with information on technical issues, legal issues and research. Given the practical nature of this hands-on workshop, participants MUST bring their own laptop or tablet computer that includes a wireless card, Web browser and word processor to the workshop.

Dave L. Edyburn, Ph.D., is a Professor, Dept. of Exceptional Education, University of Wisconsin-Milwaukee, Milwaukee, WI.

PC-4 MORE Sensory Processing, Sensory Integration and Seating and Access

Access remains the number one "problem" for many of the children we serve, especially those who have increased tone and are seated in wheelchairs. Sensory processing directly affects visual convergence, focus, attention and postural control. To assist these children in wheelchairs with developing and using "access" to AT devices, we must also better understand how their bodies work functionally (rather than pathologically) and what different seating equipment is needed. Throughout this workshop, the presenter will share strategies and equipment that work and that provide children opportunities to use their sensory processing so that increased, consistent access to AT can be supported and become efficient.

Karen M. Kangas, OTR/L, ATP, is an Occupational Therapist, AT Specialist, Seating and Mobility Specialist and Clinical Educator in private practice, Karen M. Kangas OTR/L, Shamokin, PA.

PC-5 Extreme Makeover: Rethinking Morning Meeting and Other Daily Groups to Reflect Best Practices Using iPads

In special education classrooms, morning meeting and other daily group routines often remain essentially the same from kindergarten through high school and thus become developmentally inappropriate. This time could be used on developing the key skills of reading, writing and com- munication. Introduction of the iPad may offer the opportunity to "shake things up." The focus of this workshop is to develop new educational practices for incorporating reading, writing and communication goals into daily group activities. We will cover relevant instructional techniques and look at a range of iPad apps that can be used to implement or complement these techniques. We will then split into small groups that will work on constructing a model lesson plan for morning meeting or another common daily group activity. We encourage teams (parents, teachers, therapists) who work together in the schools to attend this workshop as a group, but individual participants are welcome as well. An iPad lab will be provided.

David Niemeijer, Ph.D., is the CEO, AssistiveWare, Amsterdam, Netherlands; Mark Coppin, M.S., is an Apple Distinguished Educator and the Director of Assistive Technology, Anne Carlsen Center for Children, Jamestown, ND; Jennifer Marden, M.S., M.A., is a Speech Language Pathologist and an AAC Specialist, AssistiveWare, Amsterdam, Netherlands; Kate Ahern, M.S.Ed., is an AT Specialist, Easter Seals Massachusetts, Haverhill, MA; and Pam Harris, ATACP, is a Customer Support Team Member and Parent of an AAC User, AssistiveWare, Winthrop Harbor, IL.

PC-6 Rett Syndrome: Communication and Learning (Tots to Women)

Rett Syndrome is a complicated disorder that often baffles the most seasoned special service providers. Understanding the core deficits is key to a girl's ultimate success; engineering the environment to support and respond to fluctuating sensory needs is paramount. Add to that the daunting task of building communication that is truly communicative and can support literacy and world learning, and now we have a workshop! Come and be inspired! See extensive videos of babies, girls and woman communicating and learning that will help you see what is possible. Leave with strategies for sensory supports, communication set-ups and a working literacy framework for instruction. You will see girls, ages 2 to 30, as they learn to communicate using everything from soft tech to high-tech eye gaze devices. Girls with Rett Syndrome are complicated in that their severe apraxia masks ability that is often underestimated and untapped. Yet shining through their very real and pervasive issues is this eye gaze that often pierces the hearts and minds of those that work with them. Come spend a fast-paced day of immersion in Rett learning and communication strategies.

Susan Norwell, M.A., is an Educational Specialist in private practice/Focused Learning Solutions and Instructor, Northeastern Illinois University, Buffalo Grove, IL, and Judy Lariviere, M.Ed., OTR/L, is a Senior Occupational Therapist/Communication Specialist, Children's Hospital and Research Center (Katie's Clinic for Rett Syndrome), Rancho Cordova, CA.

PC-7 Somewhere Lost in the Middle: Serving Students who Struggle with Executive Skills, Processing, Working Memory and Retention

Students who struggle with memory, processing, retention and executive skill issues require very specific kinds of accommodations, AT supports and teaching strategies. A good majority of these kids are served in the general education classroom and can be perplexing and challenging for teachers. School district teams often struggle with placement issues for these students as they need extra support to learn in the general education classroom, but are too high functioning to be enrolled in a more restrictive setting. Hence, the students are often lost somewhere in the middle and left without the assistance they so desperately need to succeed. This workshop will focus on helping professionals identify the particular educational barriers that interfere with this population's access to the curriculum and offer specific ideas for compensating for neurologically-based deficits. Participants will leave with tools and techniques to address attention, working memory, auditory memory, internal/ external distractibility, initiation, planning, follow-through and organization. Attendees will also make and take sample supports to address target areas for their students. There is a $25 materials fee in addition to the cost of the workshop.

Keri Huddleston, M.A., CCC-SLP, is an Assistive Technology Specialist, Moira Soulia, M.S., CCC-SLP, is an Assistive Technology Specialist, and Teru Langsdale, M.S., CCC-SLP, is a Special Education Consultant, all, Washoe County School District, Reno, NV.

PC-8 Creating eBooks and Assessment Activities, Broadcasting and Sharing

Learn how to create accessible eBooks and e-content, including stories, educational content for learning and more, for iPads, Androids and computers, using a wide variety of free and inexpensive apps, programs and online solutions. Next, learn how to create/integrate assessment activities, such as comprehension questions from/ into that content using a variety of apps and Web- and computer-based programs. We will also be covering how to move eBooks from one app, program, device or platform to another. Finally, we'll show how you can broadcast your books onto an IWB (such as a SmartBoard) as a "Big Book," allowing your students to highlight points within, or even broadcast an eBook live from your computer or iPad to multiple devices in the class at the same time. Switch accessibility to eBooks on iPad and Android platforms will be demonstrated and - as always - much more! Mac/PC lab provided - BYOD for iPads, tablets, etc.

Dan Herlihy is an Assistive Technology/ Technology Resource Specialist, Connective Technology Solutions, Inc., Hoosick, NY, and Liz Medvetz is an Applications

Training and Support Specialist, University at Albany, Albany, NY.

PC-9 Getting Started with AAC: From Light Tech to iPad and/or Devices

This workshop is perfect for those teachers, therapists or parents who want to learn how to get started with communication for students who have severe and multiple disabilities. This highly successful program is supported by three years of research with students 5-18 years old. Participants will learn step-by-step instructional strategies for teaching social skills, linguistic skills and literacy skills, from light tech to high tech. Participants will create a variety of materials, including a starter light-tech book, a sample eye-point board, a portable word wall, an electronic book, a game board and adapted tools for accessing the iPad, and will receive a CD with a selection of ready-to-use support materials. In addition to the make-and-take activities, a computer and iPad lab will focus on hands-on time for creating and using communication and literacy materials. Participants are encouraged to bring their own iPads for this session; however, it is not mandatory. There is a $20 materials fee in addition to the cost of the workshop.

Pati King DeBaun, M.S., is a Speech Language Pathologist/Consultant specializing in assistive technology, Creative Communicating, Park City, UT; Sue Alderfer, M.S., is a Speech Language Pathologist and Assistive Technology Training Consultant, Montgomery County Intermediate Unit, Perkiomenville, PA; and Rachael Skinner, B.A., QCS, is the Director, Standing Tall, New York, NY.

Tuesday, October 8, 2013
8:00 am - 4:30 pm

PC-10 Visual Math Technologies for Students with Attention Impairments: Japanese Abacus (Soroban) Skills for Mental Calculation and Number Sense

In this workshop, participants will learn how to use the Soroban (Japanese abacus) using iPads, iPods and other tablets (Android or PC) as Soroban devices, in order to begin using the Soroban with their students. The workshop will begin with a brief history and background to understand the development of number sense and neuropsychology of brain areas used in math calculation. Participants will understand how to gradually introduce Soroban skills, from early number setting and place value, to addition and subtraction with the principles of complementary numbers. Visual flashcards will be provided that can be used in a memory match or card game for tablets, SmartBoards or off-line. Participants will be given Web resources for more advanced activities and will be guided through several different abacus and Soroban technologies, including a finger counting abacus-based program.

5th ANNUAL

ACCESSING THE

ARTIST WITHIN

ART CONTEST AND ADAPTED ART SHOW

The Anne Carlsen Center of North Dakota is opening a contest for artists using adaptive equipment

SUBMISSIONS ACCEPTED:

- **Paintings**
- **Drawings**
- **Photography**
- **Digital Art**
- **Video**
- **Film**
- **Musical Composition**

Submissions are currently being accepted by the Anne Carlsen Center and they will be posted as they are received.

Requirements: Age 5 - 21. Each artist must use some type of assistive technology to create his/her work of art.

A minimum of 10 pieces of art will be selected to be shown at

Closing The Gap

Conference: October 9-11, 2013

For more information

www.accessingtheartistwithin.org

1-800-568-5175

All are available for the SmartBoard, iPad or Android/PC tablet with touch screen. Participants are strongly encouraged to bring their own wireless-capable computer or Android or iOS device (with flash browser, such as Rover or Puffin for iPads), and with WizCom Abacus, Algebra Touch, Long Division, Abakus Tiamo, MathTapper's Find Sums, Japanese Soroban, Aloha Abacus, MyScript Calculator, Algebralator all preinstalled.

Katharina I. Boser, Ph.D., is the President, Individual Differences in Learning, and the Technology Coordinator, Glenelg Country School, Ellicott City, MD.

Tuesday, October 8, 2013   8:00 am - 4:30 pm

PC-11 A Writing Teacher's Toolbox: Technology-Supported Instruction for Students with Disabilities

Writing is frequently "under-taught" to students with disabilities. Adults assign and evaluate compositions and even set high standards for expected growth. However, none of these actions teach student writers how to actually organize thoughts, choose words carefully, sequence words into descriptions or arguments or polish successive drafts to best meet composition goals. In this workshop, we will demonstrate and discuss what, when and how to teach students to plan, draft, revise and edit. Workshop participants are encouraged to bring laptops and iPads in order to engage in technology-supported lessons and mini-lessons that help students learn how to write and, ultimately, how to write better.

David A. Koppenhaver, Ph.D., is a Professor, Dept. of Reading Education and Special Education, Appalachian State University, Boone, NC and Barbara Wollak, M.S., CCC-SLP, is a Speech Pathologist, AAC and Assistive Technology Specialist and Consultant, St. Paul, MN.

Tuesday, October 8, 2013   8:00 am - 4:30 pm

PC-12 Transparency of Switch Access to AT (especially for those students with the most complex bodies)

Switches, their placement and expectation of use can frequently alter actual learning. Access (e.g., automatic single-switch scanning) to activity is frequently decided upon by the switch chosen. Then, the activity itself is altered (smaller scanning array, slower speed) as well. This seems to be backwards. Shouldn't we first be interested in the child's engagement in the activity and then her management of the activity? With the use of electronic switches (zero pressure), we can provide children who have the most complex bodies with more direct involvement in the activity the switch is controlling. This will be a hands-on lab, too!

Karen M. Kangas, OTR/L, ATP, is an Occupational Therapist, AT Specialist, Seating and Mobility Specialist and Clinical Educator in private practice, Karen M. Kangas OTR/L, Shamokin, PA, and Lisa Rotelli, A.S. in Physical Therapy, is an Educational

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Consultant, Adaptive Switch Labs, Inc., Spicewood, TX.

Tuesday, October 8, 2013   8:00 am - 4:30 pm

PC-13 Advanced Proloquo2Go and Proloquo4Text Hands-On: Taking Implementation to the Next Level

Successful implementation of an AAC solution requires in-depth knowledge of the needs of the user, of the customization and configuration options of the AAC app and strategies to match the two. This hands-on workshop will use well-established AAC and AT frameworks and strategies as the foundation for matching user needs with the multitude of customization and configuration options of Proloquo2Go and Proloquo4Text. Intended for people already familiar with either Proloquo2Go 2 (or later) or Proloquo4Text, this workshop will cover advanced switch access configuration, advanced vocabulary customization techniques, multilingual configuration, vocabulary sharing and advanced appearance and interaction settings. Participate, and enhance your ability to implement Proloquo2Go and Proloquo4Text effectively to better serve those persons with whom you work. An iPad lab will be provided.

David Niemeijer, Ph.D., is the CEO, AssistiveWare, Amsterdam, Netherlands; Jennifer Marden, M.S., M.A., is a Speech Language Pathologist and an AAC Specialist, AssistiveWare, Amsterdam, Netherlands; Mark Coppin, M.S., is an Apple Distinguished Educator and the Director of Assistive Technology, Anne Carlsen Center for Children, Jamestown, ND; Cathy Kingeter, M.A., is the Director of Sales and Marketing, Origin Instruments Corp., Grand Prairie, TX; Pam Harris, ATACP, is a Customer Support Team Member and Parent of an AAC User, AssistiveWare, Winthrop Harbor, IL; Anne Verhulp, B.A., is the Communication and Training Manager, AssistiveWare, Amsterdam, Netherlands.

Tuesday, October 8, 2013   8:00 am - 4:30 pm

PC-14 Technology Solutions for Literacy Learning for Girls with Rett Syndrome

This hands-on computer lab, with practical computer training on software that has proven to support the literacy development for individuals with Rett, will add to the theoretical learning about girls/women with Rett Syndrome. Hands-on lab will include Classroom Suite, Boardmaker Plus/Studio, Tobii Communicator and My Own Books2Go to create books and/or writing activities. Participants will create books and/or writing templates with Abilipad, Clicker Sentences, GoTalkNow, Scene and Heard and Book Creator on the iPad. Participants are encouraged to bring their own iPads with the above apps preinstalled. (Load the ones that fit your needs, we will demo the rest.) Come spend the day learning the coolest apps and most effective software to build your literacy tool belt and increase your skills. We will have all day to learn and we will share our activities via a Wiki developed for this workshop. Participants

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need to be intermediate computer users to enjoy the pace of this workshop and to get the most out of the day.

Susan Norwell, M.A., is an Educational Specialist in private practice/Focused Learning Solutions and Instructor, Northeastern Illinois University, Buffalo Grove, IL, and Judy Lariviere, M.Ed., OTR/L, is a Senior Occupational Therapist/Communication Specialist, Children's Hospital and Research Center (Katie's Clinic for Rett Syndrome), Rancho Cordova, CA.

Tuesday, October 8, 2013   8:00 am - 4:30 pm

PC-15 QR Code Crazy!

QR Codes or Quick Response Codes have been popping up all over - on billboards, in magazines, on product packaging and now, at last, in the classroom! Imagine creating classroom materials that your students will access with their iPads/phones/computers that are multimedia and differentiated for their individual needs! Join this hands-on workshop as we create QR codes that will talk, sing, play video, provide direction, provide access to visual schedules and manual communication displays and much more. Participants will create QR codes that are color coded or personalized with images. Participants will also have access to a resource-filled website with additional supports and resources. Participants are encouraged to bring their own wireless-capable computer with an Internet browser AND an iOS or Android device with QR code reader app installed.

Paula Walser, M.S., CCC-SLP, is the Director of E-Learning/Assistive Technology, CESA 6, Fond du Lac, WI.

Tuesday, October 8, 2013   8:00 am - 4:30 pm

PC-16 Using Technology as Evidence-Based Practice! Addressing the Learning and Behavioral Needs of Students with Autism Spectrum Disorder

There are a vast amount of interventions, methodologies and treatments for students with ASD, with new options emerging frequently. However, since not all interventions are equal, how does one sort through the plethora of information to determine "the best" treatment approach? This workshop will provide participants with a method to do so, by considering interventions that researchers have proven to be effective by meeting criteria as evidence-based practice. Numerous practical, evidence-based practices that use various modes of technology, as identified by The National Professional Development Center on Autism Spectrum Disorder, will be discussed and reviewed, identifying key features for effective school-based programs. This workshop will assist participants to determine practices that match individual learner's specific needs because not every identified practice is appropriate for every learner. Attendees will participate in reflection and planning activities for immediate and successful implementation of these practices to address the specific learning and behavioral needs of students with ASD. Participants will leave this workshop with a wealth of information

and resources related to evidence-based practices that blend low- and high-tech strategies as tech tools for students with ASD. Participants are strongly encouraged to bring a wireless-capable laptop/netbook/SmartPhone/iPad for interactive participation.

Susan L. Stokes, M.A., CCC-SLP, is an Educational Autism Consultant and Trainer in private practice, Fond du Lac, WI.

Tuesday, October 8, 2013   8:00 am - 4:30 pm

PC-17 The iPad Creation Station: Supporting Struggling Students

Polluting your iPad with so many apps that you don't know where to begin? Roll up your sleeves in this hands-on workshop and walk away with powerful ideas that will provide you with an endless supply of iPad materials by using specifically chosen tools and a collection of resources. Instead of using hundreds of apps, we'll share step-by-step instructions on how to create your own iPad activities and tips and tricks for iPads in the classroom. Participants will learn the ins and outs of a variety of apps, including switch accessible materials, addressing content standards and the individualized needs of all students, including students with severe and multiple disabilities. We will work with Clicker Docs, Sentences, Book Creator for iPad, MyOwnBooks2Go, Panther Math, Flash Cards, Voice Dream,

Sounding Board, Panther Connect and some new apps not yet released, as well as online resources and computer tools to create your own learning materials.

Pati King DeBaun, M.S., is a Speech Language Pathologist/Consultant specializing in assistive technology, Creative Communicating, Park City, UT and Dan Herlihy is an Assistive Technology/Technology Resource Specialist, Connective Technology Solutions, Inc., Hoosick, NY.

Tuesday, October 8, 2013   8:00 am - 4:30 pm

PC-18 Five Steps to Successful Implementation of AAC Apps in Classrooms

Implementation doesn't come with a download. Whether your student is using a free AAC app, a simple app, a complex app or an app that costs hundreds of dollars, student and partner strategies probably aren't as easy as the click was to install the app. Well there is no need to get discouraged and think that you have to download another app to get to AAC utopia! Let Kelly and Scott share with you the five steps to success that they've used in real classrooms with real people, working really hard, with real kids. These strategies have been blended over the years from a variety of AAC device implementation approaches and now updated for today's AAC apps. Together they are ready to walk you through the process. Step 1: Have a Plan. Seems simple? This

workshop will begin with an overview of the different classroom-based implementation strategies that are available, giving you a foundation of choice for your variety of students. Step 2: Everybody Onboard. Again, seems simple? This section is about all of the classroom stake-holders who make - and break - the implementation of AAC in the classroom - how to bring them around and to see it as the trainer and AAC implementer do. Step 3: Teaching Communication. Seems simple? Everyone needs to know where the student is headed communicatively, not just the SLP, and that using AAC needs to be taught during real activities in a classroom setting, not just at a table being fed to touch a button. Steps 4 and 5? Join them and find out....

Kelly Fonner, M.S., is an Assistive/Educational Technology Consultant, Lake Geneva, WI and Scott Marfilius, M.S., is an Assistive/Educational Technology Consultant, Milton, WI.

Tuesday, October 8, 2013   8:00 am - 4:30 pm

PC-19 The Art of AT Service Delivery for Birth to Three: Fun, Functional and Family Friendly

From assessment to intervention to coaching caregivers, the art of providing assistive technology services to children, birth to three, and their families requires entering into collaborative arrangements with

families. Extensive videos of young children and their families will demonstrate how to enhance the social, conversational and literacy skills in young children with motor impairments and complex communication needs, autism spectrum disorders and those who are ambulatory and delayed. The close relationship between play and language will be explored, with consideration for augmentative communication strategies and tools chosen. Emphasis will be on coaching family members to provide effective interventions in daily routines and play contexts. Discussion as to how the iPad fits into activities will be shared. Hands-on opportunities with equipment and make-and-take will be included. Participants will receive a CD with resources, multi-page communication books and PowerPoint templates, and make-and-take projects to print later. There is a $10 materials fee in addition to the cost of the workshop.

Karen M. Casey, M.A., CCC-SLP, is an AT Consultant, Durham Children's Developmental Services Agency, Durham, NC.

STATE-OF-THE-ART COMMERCIAL EXHIBITS (Contracted companies to date.)

Tuesday evening through Friday, October 8-11, 2013

ASK QUESTIONS, GET ANSWERS — **Companies exhibiting at Closing The Gap represent an impressive and varied scope of AT products and strategies from around the world, including knowledgeable reps and professionals with substantial experience in the field to best explain and demonstrate their solutions.**

AAC TechConnect, Inc.
www.aacTechConnect.com
A unique company that helps you make the best choice for the best AAC voice by providing workshops, evaluation toolkits, and online clinical tools.

AbleNet, Inc.
www.ablenetinc.com
AbleNet is an industry leader in providing assistive technology and curriculum solutions to help children and adults with disabilities lead productive and fulfilled lives.

Adaptivation, Inc.
www.adaptivation.com
Adaptivation manufactures communication aids, switches and ECU's. Stop by our booth to see all our products and many fun and functional application ideas.

Adaptive Switch Laboratories
www.asl-inc.com
ASL is dedicated to designing and adapting devices that allow individuals with severe disabilities to achieve independent move-

ment, environmental control and computer/communication access.

Alexicom Tech
www.alexicomtech.com
Alexicom AAC and Element Apps work on iPad, Android, PC/Mac anytime, anywhere. Features include AT&T voices, scanning, text-to-speech, direct camera acquisition, 1500+ premade pages and word prediction.

AMDi
www.amdi.net
AMDi, leading manufacturer of low tech AAC communicators is now offering durable amplified cases for the iPad and the new iPad mini.

AssistiveWare
www.assistiveware.com
Assistiveware offers a portfolio of innovative solutions for physical, vision and communication impairments designed for Mac OS X and iOS, including award-winning Proloquo2Go.

Atomic Learning
www.atomiclearning.com
Atomic Integrate offers a cost-effective PD, technology integration and support solution that empowers educators to effectively utilize technology to impact student achievement.

Attainment Company
www.attainmentcompany.com
Attainment Company produces the GoTalks, research-based curricula to meet standards, e-pubs, videos, new software, instructional materials and develops GoTalk NOW' and educational iPad apps.

Augmentative Resources, Inc.
www.augresources.com
AAC Communication Books, Choice Boards, Picture Schedules and Interactive Language Books. New!- Communication Charm Bracelets, Easy-Push Talking Pockets and Time-a-Task Schedules.

BlueSky Designs
www.mountnmover.com
BlueSky Designs manufactures the Mount'n Mover, an independently movable mounting system. This mount offers flexible, secure positioning of iPads, speech devices, laptops, cameras, eating and reading trays.

Cadan Computers dba Technology for Education
www.tfeinc.com
iPad accessories, Interact AS (Deaf - HOH) software, Flick camera controlled by computer for classroom use, Tecla product allows wheelchair joystick to navigate iPod and iPad.

Cambium Learning Technologies
www.cambiumlearningtechnologies.com
The leading educational software company focused on creating instructional products that serve the needs of at risk and special student populations.

Closing The Gap
www.closingthegap.com
Try, first-hand our online edition with its archived articles, assistive technology product guide, searchable content, and now archived webinars that offer unique learning opportunities and truly represents an educational and training resource on demand!

Cognitopia
www.cognitopia.com
Self-management made simple- for cognitive disabilities: visual scheduling, vedeo modeling and more. Supporting self-determination and independent living through cognitively accessible UDL iPad compatible.

Creative Communicating
www.creativecommunicating.com
Creative Communicating by Pati King-Debaun specializes in universally accessible materials for children with disabilities. Including books, software, apps and online resources.

Crick Software
www.cricksoft.com
Crick software is dedicated to raising literacy levels. Clicker 6, ClozePro and Writeonline are powerful tools designed to support students of all abilities.

Daedalus
www.daessy.com
DAESSY Mounting Systems "Making Technology More Accessible". The leader in mount systems for AAC devices and computers. Visit Booth #500 to see the latest.

Don Johnston, Inc.
www.donjohnston.com
We've been developing core reading and writing technologies for over 33 years, including school favorites like Co: Writer, Read: Outloud, SOLO, and Start-to-Finish.

Dynavox Mayer-Johnson
www.dynavoxtech.com
DynaVox Mayer-Johnson is the leading provider of communication devices and educational software designed to assist individuals in overcoming their speech, language and learning challenges.

Education Associates, LLC
www.educationassociates.com
Education Associates publishes Project Discovery, an award-winning curriculum offering over 500 hands-on career exploration choices and thousands of job and life skills.

EnableMart
www.enablemart.com
EnableMart is the worldwide leader in assistive technology distribution offering more than 3,000 assistive devices with guaranteed best pricing and unbeatable support.

Inclusive TLC / HelpKidzLearn
www.inclusivetlc.com
Internationally recognized in the special education field, providing the best software, wireless access, curriculum-based apps and communication aids, as well as a web-based resource site.

Infogrip, Inc
www.infogrip.com
Infogrip has creative computer access solutions for people with all types of disabilities. Alternative keyboards and mice, switches, screen readers, magnifiers and educational software.

JABBLA
www.jabbla.com
Jabbla develops AAC devices and software that assist people with communication challenges. Jabbla products are known for their industry leading innovative technology.

Judy Lynn Software
www.judylynn.com
Special needs age appropriate software for the new Windows 8 tablet, the iPad, Windows desktops and laptops. Cause & Effect, Choice Making, Scanning, Matching, Music, Sequencing, Transition Skills.

Komodo Open Lab Inc.
www.komodoopenlab.com
Komodo OpenLab develops inclusive technologies that facilitate the daily lives of people with disabilities. Our product, Tecla Shield, provides switch access to smartphones and tablets.

LC Technologies, Inc.
www.eyegaze.com
Eyegaze Edge: Eye-controlled speech, PC/Mac access, Internet, email, IR remote, Facebook, Kindle, children's programs. Use it in any position, requires only one eye. FDA-approved.

Lightspeed Technologies, Inc.
www.lightspeed-tek.com
Your voice. Their mind. A clear connection. Estabilished in 1990, Lightspeed is the trusted provider in classroom audio.

Marblesoft
www.marblesoft.com
For over 30 years, Marblesoft-Simtech has produced outstanding special needs software for infants through adults. Stop by booth #305 and see our new apps!

ModularHose
www.modularhose.com
Loc-Line Modular Hose is a plastic hose system that is flexible but yet self-supporting and repositionable. Great for holding switches and small devices.

N2Y, Inc.
www.n2y.com
Channel current events with News-2-You, our weekly Internet newspaper. Acquire a standards-based special education curriculum with Unique Learning System. Communicate with our dynamic symbol set, SymbolStix.

Nasco
www.enasco.com
Nasco's Special Education Catalog offers a full line of products and resources for the special education teacher K-12, including software and assistive technology.

Opportunity Foundation of America and the EagleEyes Project
www.opportunityfoundationofamerica.org
EagleEyes is an innovative eye controlled technology developed at Boston College that enables recreation, communication and education for individuals with severe disabilities.

Origin Instruments
www.orin.com
Origin Instruments delivers hardware and software solutions for computer access, switch-based access, speech and low vision. The HeadMouse Extremem is the company's flagship product.

Prentke Romich Company
www.prentrom.com
See PRC's new Accent family of devices, LAMP: Words for Life application, new training opportunities and services and updates to our AAC Language Lab.

Proxtalker.com LLC
www.proxtalker.com
Proxtalker manufactures communication and learning aids for non-verbal individuals with autism and low incidence syndromes who require the use of tangible objects for learning and communication.

Read It Once Again
www.readitonceagain.com
Read It Once Again offers 40 preschool curriculums based on children's literature. Curriculums contain goals, objectives, 100 plus activitites and CDs with colored reproducible graphics.

Read Naturally, Inc.
www.readnaturally.com
Read Naturally's innovative, research-proven reading programs provide high quality interventions and differentiated instruction for struggling readers. The programs focus on fluency, phonics, vocabulary and assessment.

REHAdapt
www.rehadapt.com
REHAdapt Engineering is a worldwide leader in manufacturing of specialized mounting systems. Our virtual mounting solution services offer unique customizing to the individual user.

RESNA
www.resna.org
RESNA is the premier professional organization dedicated to promoting the health and well-being of people with disabilities through increasing access to technology solutions.

RJ Cooper and Associates
www.rjcooper.com
iPad Stuff Galore, and also known around the world as someone to speak with concerning unique situations, since 1984, RJ has created needed tech stuff at your request.

Saltillo Corporation
www.saltillo.com
Saltillo Corporation manufactures and distributes portable augmentative communication for individuals who cannot speak. Visit our booth to see our NOVA Chat family and TouchChat application.

Sonocent - USA
www.sonocent-usa.com
Not available at this time.

SpecialNeedsWare
www.autismate.com
SpecialNeedsWare aims to improve the lives of those with special needs through modern technology. AutisMate provides caretakers with the first integrated communication and behavioral learning platform for individuals with autism.

Switch In Time
www.switchintime.com
Switch In Time offers engaging games and music software for people of all ages and abilities.

TabAccess/Access4Kids, Georgia Institute of Technology
www.facebook.com/tabaccess
With TabAccess/Access4Kids, configure your switch actions to access numerous Apps on your tablet! Engage in free robot-programming workshops provided by Georgia Tech engineers!

TAI - Talent Assessment, Inc.
www.talentassessment.com
Not available at this time.

TalkRocket by MyVoice
www.myvoiceaac.com
MyVoice Inc. is the creator of TalkRocket Go and RocketKeys. AAC apps with innovative features, personal expression and extreme accessibility for speech, motor and vision disabilities.

Tap* it
www.teachsmar.org/tapit
The TAP*it platform, touch accessible platform for interactive technology, revolutionizes accessibility and easily integrates with educational assistive software to foster transformative learning for individuals with special needs.

Texthelp, Inc.
www.texthelp.com
Texthelp provides literacy software including: Read&Write GOLD, reading/writing/research tools that integrate with mainstream applications and Fluency Tutor, online solutions for developing/assessing reading fluency and comprehension.

The Center for AAC and Autism
www.aacandautism.com
Improving language and communication skills of kids with autism through AAC.

Tobii ATI
www.tobiiati.com
TobiiATI is the premier developer of hardware and software solutions for people with physical, cognitive and speech disabilities. Let us help you find your voice!

University of Illinois at Chicago Assistive Technology Unit
www.uicatu.org
Not available at this time.

Virtual Speech Center
www.virtualspeechcenter.com
Virtual Speech Center is a leading provider of speech therapy apps. Our apps incorporate the latest technologies in mobile app development and include high-quality photos.

VizZle by Monarch Teaching Technologies
www.monarchtt.com
Award-winning web-based autism and special needs software for technology-based, visually supported access to curriculum. Customize peer-reviewed, pre-made lessons or create your own.

Writer Learning
www.writerlearning.com
New from Writer Learning, the Forte has outstanding battery life, a cool new look and a very low price tag. Come by and check out what's new!

Conference - Wednesday, Thursday, Friday, October 9-11, 2013 Includes Preview of Exhibits – Tuesday, October 8, 5:30 pm - 8:00 pm				
Registration Received	**On or Before June 30**	**July 1 - September 5**	**September 6 - September 26**	**September 27 - Onsite**
Standard Rate **Group Discount - 5 or more** **Group Discount - 8 or more** *All group registrations must be received at the same time.*	**$435** Groups 5+ Deduct $30 Groups 8+ Deduct $50	**$465** Groups 5+ Deduct $30 Groups 8+ Deduct $50	**$505** Groups 5+ Deduct $30 Groups 8+ Deduct $50	**$535** Groups 5+ Deduct $30 Groups 8+ Deduct $50
Parent Rate *(A letter describing your child's disability must accompany registration)*				**$275**
Full-time Student Rate *(Proof of full-time student status must accompany registration)*				**$275**
Presenter Rate				**$335**
Exhibitor Rate				**$335**

Single Day and Exhibit Hall Only Registration	**Price**
Thursday Only - October 10	**$275**
Friday Only - October 11	**$125**
Exhibit Hall Only - Tuesday evening through Friday, October 8-11	**$175**

Preconference Workshops - Monday and Tuesday, October 7-8, 2013 (Includes Preview of Exhibits – Tuesday, October 8, 5:30 pm - 8:00 pm)	**Price**
Monday, October 7 *(Some preconference workshops carry an additional fee for materials)*	**$275**
Tuesday, October 8 *(Some preconference workshops carry an additional fee for materials)*	**$275**
BUNDLED PRICING! **Monday and Tuesday Bundle ($75 savings)**	**$475**

$30 RETURN DISCOUNT A $30 "return" discount is available to **ANY** past conference registrant and must be used by June 30, 2013. This discount can be used for any preconference workshop OR conference registration and is **IN ADDITION** to any and all other applicable discounts. If registering online, you will be required to enter and apply code **RETURN** at checkout.

CONFIRMATION

All who register will receive confirmation.

CONFERENCE DIRECTORY

The official Closing The Gap Conference Directory will be given to registrants at the conference site; many of the conference details will be posted on Closing The Gap's Web site.

CANCELLATION POLICY

Cancellations must be received in writing by Closing The Gap on or before October 1, 2013. There will be a $75 cancellation fee for each one-day preconference workshop, each one-day conference registration, or each exhibit hall only registration; a $125 cancellation fee for each three-day conference registration. Replacements are welcome and must be submitted in writing.

No refunds after October 1, 2013. Unpaid balances are due in full.

SCHOLARSHIPS

A limited number of scholarships are available for persons with disabilities or parents/guardians of children with disabilities. These scholarships cover registration fees for the conference only (Wednesday - Friday), and do not cover preconference workshops, food, lodging or travel. Scholarships are awarded on a first come, first served basis and one time only per person. Persons that have previously received a scholarship from Closing The Gap are not eligible.

To apply, complete a conference registration form, indicating your scholarship request. Submit the form and attach a letter describing your/your child's disability and telling us why you would like to attend the conference.

Applicants will receive written notification of acceptance or denial.

CONFERENCE HEADQUARTERS

DoubleTree by Hilton Hotel Bloomington, 7800 Normandale Blvd., Bloomington, Minnesota is the official hotel of the conference. All conference activities are held at this hotel located just 10 minutes west of the Minneapolis-St. Paul International Airport. Limo, taxi and mobility assistance services are available. Hotel-airport shuttles are available for DoubleTree Hotel.

TRAVEL

Minneapolis-St. Paul International Airport (MSP) has one airfield and two terminal buildings. Numerous commercial passenger airlines service the airport.

Conference goers are encouraged to choose the airline that best meets their needs and budget.

For detailed airport information, please visit www.mspairport.com/

For those interested in flying **Delta**, Closing The Gap has arranged for them to offer discounted conference rates. Reservations/ticketing is available via www.delta.com or by calling Delta at 800-328-1111, Monday through Friday, 7:30 am – 7:30 pm Central Daylight Time (US and Canada only), referencing **Meeting Event Code NMF5U**. A Direct Ticketing Charge will apply for booking by phone. When booking online, enter **Meeting Event Code NMF5U** in the box provided on the Book A Trip page.

ACCESSIBLE TRANSPORTATION

To arrange for accessible transportation while visiting the Minneapolis area, have your ADA certifying agency fax your certification information along with the address where you will be staying and dates you plan on being in Minneapolis to 651-602-1660 four weeks prior to your arrival date. Riders must be ADA certified in the state in which they live. For questions regarding certification, call Cheryl Schmidt at 651-602-1673. If you are not ADA certified, call Airport Taxi at 612-331-8294 (special assistance provided if requested).

HOTEL RESERVATIONS

Hotel reservations can be made by contacting the hotel directly. Please refer to the "Closing The Gap Conference" when making your reservations to receive conference room discounts when and where applicable. The hotel has a limited number of handicapped accessible rooms. If you require an accessible room, state your needs when making your reservations and reserve your room early to better insure a room that will best accommodate you.

A deposit of one night's room rate plus tax is required to reserve a guest room for the Closing The Gap Conference.

CONFERENCE SITE HOTEL
DoubleTree by Hilton Hotel Bloomington

7800 Normandale Blvd.
Bloomington, MN 55439
Phone: 952-835-7800; **Fax**: 952-893-8419

$149 - single occupancy   **$169** - triple occupancy
$159 - double occupancy   **$179** - quad occupancy
(South Tower.)
(Plus applicable state and local taxes.)

Complimentary Internet in all guest rooms
Complimentary airport shuttle service

Cancellation policy for the hotel: Guest rooms may be cancelled up to two weeks prior to arrival with no cancellation penalty and your total deposit refunded to you. Any guest room cancelled less than two weeks prior to arrival will be subject to forfeiture of the entire deposit.

2013 CLOSING THE GAP CONFERENCE REGISTRATION FORM

First Name_____ Last Name_____

Mailing Address (home/work - please circle one) _____

City _____ State / Country_____ Zip Code / Postal Code_____

Daytime Phone_____ Fax_____ Email _____

Employer_____ Occupation_____

Is this your first time attending? ❏ Yes ❏ No If no, most recent year attended _____ How did you hear about the conference? _____

*SPECIAL SERVICES ❏ MS DOS text file   ❏ Macintosh text file (Text file will be e-mailed.)   ❏ Sign interpreter

*For persons with disabilities only – must be requested by September 1, 2013.

Conference - Wednesday, Thursday, Friday, October 9-11, 2013 Includes Preview of Exhibits – Tuesday, October 8, 5:30 pm - 8:00 pm				
Registration Received	**On or Before June 30**	**July 1 - September 5**	**September 6 - September 26**	**September 27- Onsite**
❏ **Standard Rate**	**$435**	**$465**	**$505**	**$535**
❏ **Group Discount - 5 or more**	Groups 5+ Deduct $30	Groups 5+ Deduct $30	Groups 5+ Deduct $30	Groups 5+ Deduct $30
❏ **Group Discount - 8 or more** *All group registrations must be received at the same time.*	Groups 8+ Deduct $50	Groups 8+ Deduct $50	Groups 8+ Deduct $50	Groups 8+ Deduct $50
❏ **Parent Rate** *(A letter describing your child's disability must accompany registration)*				**$275**
❏ **Full-time Student Rate** *(Proof of full-time student status must accompany registration)*				**$275**
❏ **Presenter Rate** (Presentation title:			)	**$335**
❏ **Exhibitor Rate** (Company name and booth number:			)	**$335**

$_____

Single-Day and Exhibit Hall Only Registration	**Price**
❏ **Thursday Only - October 10**	**$275**
❏ **Friday Only - October 11**	**$125**
❏ **Exhibit Hall Only - Tuesday evening through Friday, October 8-11**	**$175**

$_____

CONFERENCE SCHOLARSHIP (See page 38 for complete information.)

$ $0.00   ❏ I am applying for a conference scholarship. A letter describing your/your child's disability and telling us why you would like to attend the conference must be included.

Preconference Workshops - Monday and Tuesday, October 7-8, 2013 (Includes Preview of Exhibits – Tuesday, October 8, 5:30 pm - 8:00 pm)			**Price**
❏ **PC-1 Two-day PODD Workshop, Monday and Tuesday, October 7-8**			**$475**
❏ **Monday, October 7**	1st Choice PC-_____	2nd Choice PC-_____	**$275**
❏ **Tuesday, October 8**	1st Choice PC-_____	2nd Choice PC-_____	**$275**
❏ **BUNDLED PRICING!** **Monday and Tuesday Bundle ($75 savings)**			**$475**
❏ **MATERIAL FEE(S), IF APPLICABLE** (The materials fee equals the cost of the materials provided.)			
PC-1 - **$17** materials fee PC-7 - **$25** materials fee PC-9 - **$20** materials fee PC-19 - **$10** materials fee			

$_____

$_____

ACADEMIC CREDIT (See page 32 for complete information and requirements.)

$_____   ❏ One Semester Credit **$150**   ❏ Two Semester Credits **$300**   ❏ Three Semester Credits **$450**

SUBSCRIPTION - AN ADDITIONAL NON-CONFERENCE OPTION
Archived Webinars included as part of an online subscription! FREE 2-day trial available at www.closingthegap.com

$_____ **CONFERENCE SPECIAL:** ❏ One-year ONLINE subscription – **$95** *(Regularaly $110)*   ❏ One-year ONLINE student subscription – **$50** *(proof of enrollment required)*

($_____) **RETURN DISCOUNT - $30** (Not applicable after June 30, 2013)

$_____ **TOTAL AMOUNT** (Payment or purchase order must accompany registration.)

PAYMENT INFORMATION My check # _____ for $ _____ is enclosed.

Please Charge to my ❏ Visa ❏ MasterCard Card Number _____-_____-_____-_____

Exp Date: _____   Cardholder Address:_____

Please bill my agency or school district PO # _____(Purchase order must accompany registration.)

subscribe TODAY

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Closing The Gap
Solutions

Allow 8 - 10 weeks for delivery of your first issue.

1-year, online subscription
$110

Single-User Online Subscription

Order:	Single-User Subscription	Rate
❏	1-year online subscription	$110.00 USD
❏	1-year student online subscription (Electronic Textbook) Proof of enrollment required.	$50.00 USD

Multi-User Subscription (1 year site license)

Order:	Number of Users	Rate (Per person)
❏ Number of users: _____	10-49 users	$99.00 USD
❏ Number of users: _____	50-99 users	$93.50 USD
❏ Number of users: _____	100-299 users	$88.00 USD
❏ Number of users: _____	300+ users	$82.50 USD

To subscribe, please complete and return form to:

Closing The Gap
P.O. Box 68
Henderson, MN 56044

Orders also accepted at:
www.closingthegap.com
Free 2-day trial available.

Name: _____

Organization: _____

Mailing Address: _____

City: _____

State / Country: _____ Zip / Postal code: _____

* Phone: _____ Fax: _____

* Email: _____
* Required

Occupation: _____

Where did you hear about Closing The Gap? _____

❏ **Check is enclosed $** _____

❏ **Please charge $** _____ to ❏ Visa ❏ MasterCard
Credit card account number:

_____Exp. date _____

Cardholder signature: _____

Cardholder address: _____

❏ **Purchase order attached #:** _____