

The iPad as an Assessment Tool for Students with Complex Communication Needs

As someone who has been conducting assessments for students with complex communication needs (CCN) for over 20 years, I fully appreciate the fact that determining the unique needs of these students is a multi-faceted, collaborative process, and I can guarantee that no two assessments will ever be exactly the same. The task put before the assessment team is a daunting one. As part of this process, the team must evaluate all of the skills sets needed to access augmentative and alternative communication tools, whether they are no-tech, low-tech or high-tech. The team must also provide a description of the student's learning profile, highlighting relative strengths and weaknesses, and make recommendations regarding accommodations and modifications that will allow the student to reach his or her potential and become as independent as possible. The reality is that this process will continue throughout the lifespan of the individual with CCN, taking into consideration

changes in abilities, environments and personal preferences, as well as technological advances.

Several years ago, I assembled a comprehensive "assessment kit" containing tools and paraphernalia I deemed as crucial when assessing the skill sets of students with CCN. The contents of this kit were stored in a hefty suitcase with wheels so that it could be easily transported from site to site. The kit included formal and informal tests and protocols, a plexiglass eye gaze board, symbol based communication boards and books, switches and switch-operated toys, a latch timer, single- and multi-message voice output devices (VODs), dynamic screen speech generating devices (SGDs), a laptop computer loaded with adapted software, a switch interface and a touchscreen monitor. This assessment kit served my needs quite well! Over the past few years, however, my assessment kit has been streamlined significantly. I no longer need a suitcase

to haul test booklets, switch activated toys, voice output devices, speech generating devices, a laptop computer or a touchscreen monitor. These days, most of the tools in my assessment kit have been replaced by one single device - the iPad! The iPad provides me with all of these tools in a single, compact, user-friendly platform. Not only that, but most of the students I assess already know how to use the iPad. In fact, they actually enjoy using it! And what's even more exciting is that parents and teachers know how to use it as well! All of these factors make the iPad the most practical and functional device in my assessment toolbox.

COMPLEX COMMUNICATION NEEDS

More and more, we are relying on alternative assessment modes for students with special needs, especially those with complex communication needs. There are several reasons why standardized tests are not valid or useful



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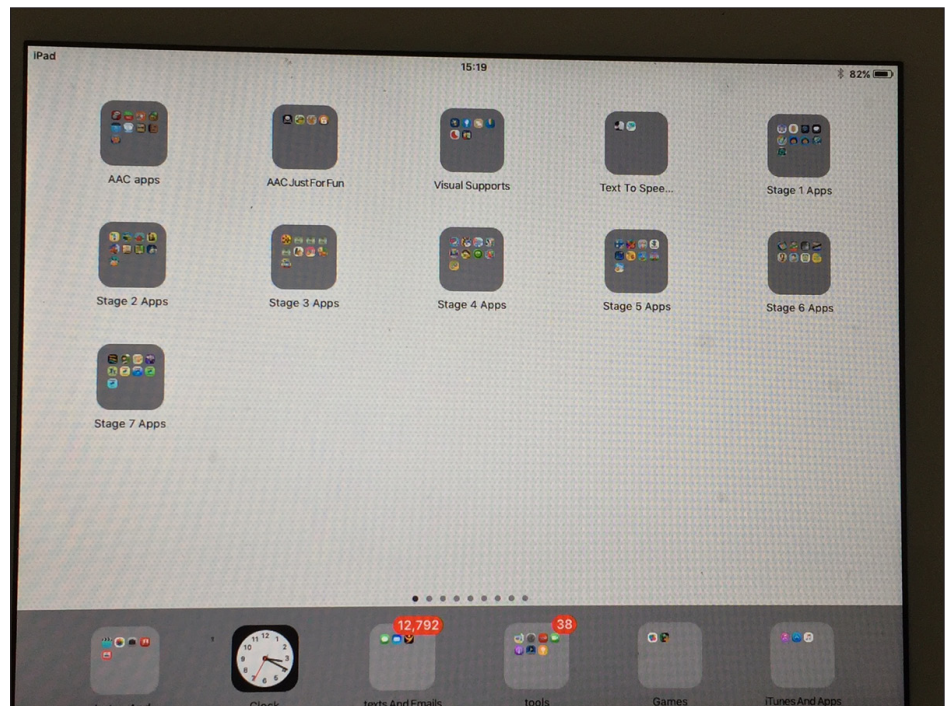
for students with complex communication needs (CCN), including:

- The tests are typically not normed on this population.
- Standardized tests are often given to determine present levels, with the expectation that the student will move up to the next level or “catch” up to their typical peers given appropriate interventions. This may be unrealistic for a student with CCN.
- Many standardized tests cannot be given in a standardized manner to students with CCN, invalidating the results.
- In many districts, standardized tests are used primarily to determine initial and continued eligibility for special education services using a “discrepancy model”. A student with CCN will likely qualify for special education as a preschooler (or earlier) and need special education services across his or her entire school career.
- Standardized tests do not help determine appropriate modifications or accommodations for students with CCN and should not be used to guide the IEP team in the goal writing process.

Although I don’t rely on it exclusively, the iPad almost always plays a role in the assessments I conduct for students with CCN. It is a multi-functional tool that can provide a wealth of information to help guide the IEP team in understanding a student’s skill sets and learning profile. In order to demonstrate this phenomenon, I will share with you some of the students I have assessed using the iPad as a primary tool. These students represent just a handful of the hundreds of students with whom I have used the iPad to assess skills ranging from simple cause-effect to basic sentence formulation to conversational speech.

INTELLECTUAL DISABILITY

The iPad can be an invaluable assessment tool for determining competency



I store my educational apps on my iPad by stages, according to Madalaine Pugliese’s STAGES

levels in students with moderate to severe intellectual disabilities. I like to use Madalaine Pugliese’s Stages Developmental Framework for this purpose. By visiting her Wiki Space, Apps4Stages (<http://apps4stages.wikispaces.com>), I was able to determine developmentally appropriate apps for learners across seven stages of learning, from Cause and Effect (Stage One) to Written Expression (Stage Seven). I now have all of the educational apps on my iPad organized according to these seven stages of learning. When assessing students with intellectual disabilities, I can switch from one stage to the next, depending on the student’s performance. If the tasks are clearly too difficult, I go back a level. If the student is able to perform the tasks independently with no difficulty, I move up to the next level. This process helps provide important information about the student’s relative strengths and weaknesses in regards to cognition, language and learning.

I recently assessed a student whose primary handicapping condition was intellectual disability, with a secondary

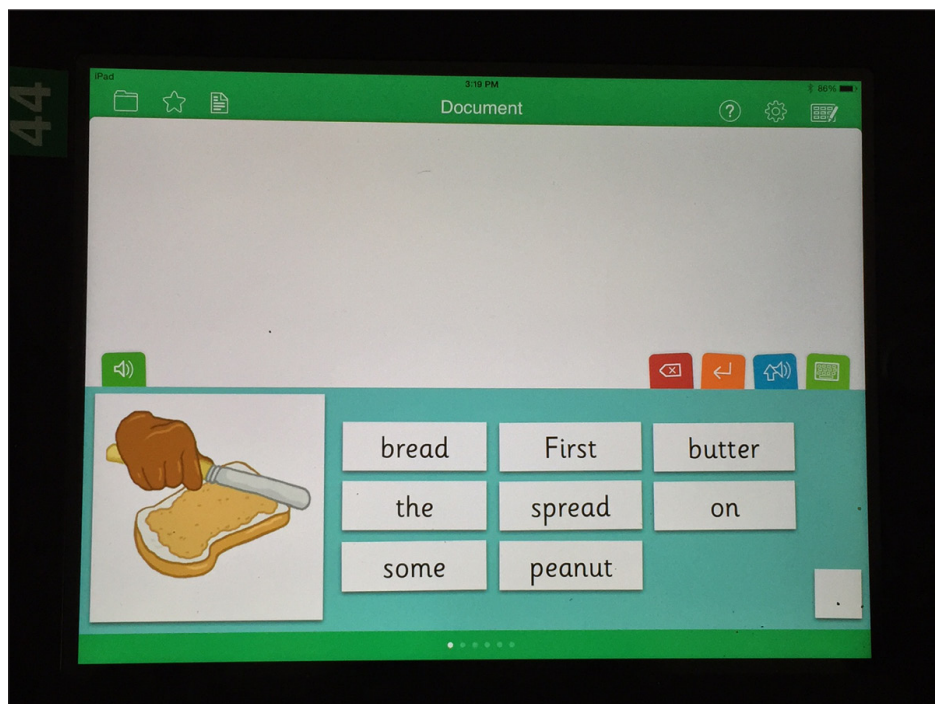
condition of speech-language impairment. She was enrolled in a classroom for students with mild-moderate disabilities and was struggling to keep up with the curriculum. Her IEP team was frustrated by her lack of progress, particularly with her inability to recognize colors, shapes, letters and numbers. Her language difficulties interfered with her ability to be a functional verbal communicator, and she would often resort to behaviors such as hitting or eloping when she became frustrated. Using iPad apps organized according to the Stages Developmental Framework, we determined that this student was functioning at Stage Three of the framework (Emerging Language). Based on this information, the teacher and staff understood that the expectations of the curriculum she was being exposed to were above her level of understanding. They not only had a better perception of her skill levels, but they were also able to use the Stages Developmental Framework to determine the types of activities they could provide to help her learn and move forward to the next level. The assessment for

this student also included an informal augmentative and alternative communication (AAC) evaluation using the AAC Evaluation Genie app (<https://itunes.apple.com/us/app/aac-evaluation-genie/id541418407?mt=8>). Using this app, we determined that the student could navigate from a field of up to 32 picture icons and understood many photo and picture icons representing nouns, verbs and function. She had difficulty recognizing categories and determining photos that went together (i.e., bird and nest). This gave us information to guide the team in determining appropriate AAC tools and strategies for the student.

AUTISM

The iPad has become my favorite assessment tool for students with autism spectrum disorders (ASD). This population has a natural affinity for technology, and the majority of students I see with ASD are already very familiar with the iPad. The platform provides both visual and auditory cues, as well as an interactive learning experience that offers immediate feedback to keep students focused and motivated.

An example I often share in my trainings and presentations involves a high school student named Louis. His speech therapist described him as a well mannered, hard working young man whom she felt had untapped potential due to his significant expressive language difficulties. His poor communication skills prevented him from participating in most academic activities without significant adult prompting. He was also unable to carry on conversations with peers, preventing him from establishing friendships. His speech therapist quickly determined that he had many of the prerequisite skills (i.e., picture symbol recognition, categorization, receptive vocabulary, navigation) that would allow him to access a sophisticated dynamic screen speech-generating device. (SGD). When I arrived to consult on the case, I



[Clicker Sentences](#) offers multiple levels of supports for students with complex communication needs, including word banks and the option to have text read aloud.

came with my iPad and [Proloquo2Go](#) AAC app. We introduced Louis to the app and briefly modeled how to use it. For the next hour, he independently explored the pages, scrolling through numerous categories and activating buttons. He often verbalized as he was exploring. When he got to the food page, he spontaneously began to tell us about the foods he liked, as well as posing questions to us about our food preferences. Next he explored the animals page, finally settling on "pets". He began to tell us about his dog, Molly, using both [Proloquo2Go](#) and verbal speech (one- to two-word utterances). His speech therapist commented that she had never seen Louis so expressive and articulate, and it was the first time he had ever initiated a conversation with her. This information was shared with Louis' IEP team, and an implementation plan was developed. Recommended next steps included continued trials and practice with [Proloquo2Go](#) and implementation of picture-based communication tools and strategies across all environments.

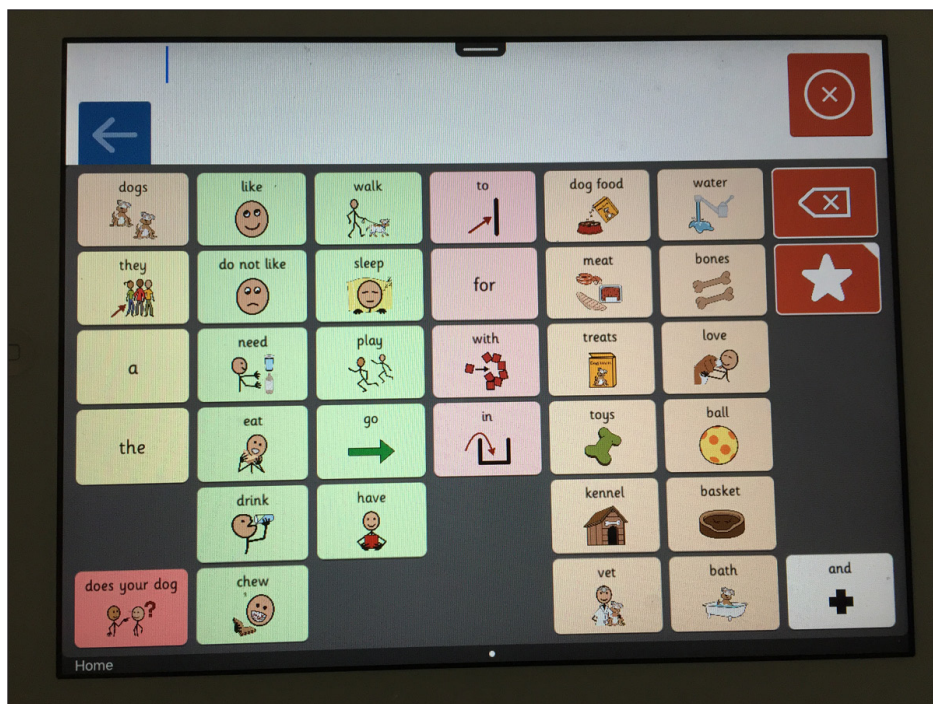
One of my favorite assessment activities for students with ASD is the use of word banks. It's amazing how many of these students who have difficulty formulating sentences verbally become very expressive when given word banks with which to write. Because they are typically visual learners, students with ASD often have extensive sight word vocabularies. I frequently use the CrickSoft apps, [Clicker Sentences](#) and [Clicker Connect](#), to help determine vocabulary, sentence formulation and reading skills for non-verbal or minimally verbal students on the autism spectrum. Both of these apps offer multiple levels of support, allowing the examiner to quickly and easily modify the difficulty of the task based on the student's present skill levels. Once skill levels are determined, the teacher and staff can easily create individualized learning activities that the student can access with little or no adult support. The increased level of engagement and independence they witness when adapted educational apps are used to modify the

curriculum and support learning always surprises teachers and parents.

Additional educational apps for students with autism can be found on the [Apps4Stages](#) Wiki Space mentioned above. Mark Coppin, Director of Assistive Technology at the Anne Carlsen Center in Jamestown, North Dakota, has provided these recommendations. The apps are presented in a “wheel” format, divided into four sections: Common Learning Characteristics, Common Learning Traits, App Categories and Apps. This provides a quick and easy way to reference apps for both assessment and intervention.

MULTI-HANDICAPPED

The last student I want to share about is a very special and unique young girl I'll call Mary. At the time I consulted on this case, Mary was 4 years old with a diagnosis of cerebral palsy. She was medically fragile and received all of her educational services in the home. She was non-verbal, non-ambulatory and visually impaired. She received nourishment via a g-tube and spent most of her day watching TV or listening to music. She also enjoyed looking at picture books while her mother or father read to her. An initial AAC assessment was conducted to determine whether Mary could use a switch to perform simple cause-effect activities. The entire IEP team was present for this session, including Mary's occupational therapist, visual impairment (VI) specialist, speech-language pathologist and home-hospital teacher. Mary's parents were also present. Working collaboratively, the team assembled a wireless Bluetooth switch system, which allowed Mary to activate the iPad using her left cheek, requiring only a slight head movement. Using an app specifically chosen for her by the VI specialist, Mary was prompted to use her switch to activate a visual display on the iPad, which was accompanied by soothing piano music. Within a few minutes, Mary was independently using the switch to



The [Clicker Communicator AAC app](#) is specifically designed for young communicators and includes free access to pre-made topic communication boards such as this one.

change the visual display on the screen. The smile on her face spoke volumes as she continued to scroll through the displays without any assistance from an adult. For the first time in her life, Mary had direct control of something in her environment! The emotions in the room were overwhelming - there wasn't a dry eye among us! We had just opened up a whole new world for Mary. Her team immediately began to make suggestions for activities in which she could now participate, which included operating a blender, fan, TV and music player. She could also use her iPad to access a variety of switch-activated games, as well as music, videos and books.

A FEW OF MY FAVORITE APPS (ALL AVAILABLE THROUGH ITUNES)

In conclusion, I'm offering a short list of apps that I find myself using frequently with the students whom I assess. Included in this list are the vendors, prices and a brief description of features or skills targeted.

AAC APPS:

AAC Evaluation Genie, Hump Software, \$11.99; an informal diagnostic tool designed to assess skills areas specific to AAC use.

[Clicker Communicator](#), Crick Software, \$159.99; specifically designed for children and young people. Includes over 24,000 SymbolStix picture icons. Three levels cover a wide range of abilities. Many premade vocabulary sets, can also create your own. Can access free resources from LearningGrids website.

[GoTalk Now](#), Attainment Company, \$79.99 (also FREE lite version); comes with Imagine Symbol set or you can use your own photos. Offers three different types of communication pages: Standard, Express and Scenes.

LAMP Words for Life; Prentke Romich Company, \$299.99; symbol-based system utilizes the PRC Unity semantic compaction vocabulary and principles of Language Acquisition through Motor Planning.

[Proloquo2Go](#), AssistiveWare, \$249.99; symbol supported communication app

(over 20,000 SymbolStix picture icons) with robust vocabulary. Highly customizable. Can be used with beginning to advanced communicators.

Sounding Board, AbleNet, FREE (add-ons extra); can create custom communication boards using AbleNet symbols or your own photos.

TapSpeak Button, Ted Conley, \$29.99 and up; converts the iPad into a mechanical switch that records and plays messages.

TouchChat HD, Silver Kite, \$149 and up; full featured communication app with robust vocabulary (over 10,000 SymbolStix picture icons). Highly customizable.

EDUCATIONAL APPS:

Bob Books, Bob Books Publications LLC, \$3.99 and up; sentence formulation, reading, spelling, phonemic awareness, left to right sequencing

Clicker Connect, Crick Software, \$30.99; vocabulary, sentence formulation, word recognition, early reading and writing

Clicker Sentences, Crick Software, \$30.99; vocabulary, phonemic awareness, sentence formulation, reading, writing

Count Money, Innovative Investments Limited, \$.99 (free lite version); counting, money concepts, coin/currency recognition

Dots for Tots, SID On, \$1.99; hand-eye coordination, drawing, counting, one-to-one correspondence, letter/number recognition, basic concepts

Draw Stars, L'Escapadou, FREE; cause and effect, drawing, training appropriate touch for iPad screen

Math Kid, Alex Drel, FREE (\$.99-\$1.99 for in-app purchases); foundational math skills, ages 4-12

Peekaboo Barn, Night & Day Studios, \$1.99, cause and effect, vocabulary, speech production

Spelling Bug, Power Math Apps, FREE: vocabulary, spelling, sight vocabulary, left-to-right sequencing

Spelling Magic-2, Preschool University, FREE (\$1.99 for upgrade); vocabulary, left-to-right sequencing, phonemic awareness

Story Wheel, EverAge, FREE; oral and written language, imagination, creative writing, narrative story telling

Switchkids, Marblesoft, \$9.99 (Lite version is \$.99); cause and effect

Tacky Wales Create, Laura Jaffe, FREE; vocabulary, sentence formulation, parts of speech, creative writing, humor

Tell Time-Little Match-Ups Game, Innovative Investments Limited, FREE; time concepts, reading digital and analog clocks


Things That Go Together, Innovative Investments Limited, \$.99; vocabulary, word association, problem solving ■



Peekaboo Barn moves beyond simple cause-effect, teaching farm animal vocabulary, animal sounds and modeling speech production of single words. Text is also provided for early literacy exposure.



The **Switchkids** app by Marblesoft provides a fun and entertaining way for young learners to establish cause and effect skills.



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