On the topic of computer and iPad access, there is a great deal of technical information, product information, vendor webinars, YouTube tutorials, professional development within the schools and at conferences. The recipe for success is a complex one, requiring knowledge, tools, time, trial and error, practice, failure and success, patience, communication and implementation. The timeline for a student to obtain success may be several months to a couple of years. Attainment of success with one goal is met with new possibilities and new goals and it is ongoing and never ending as the student makes progress. New tools and activities need to be added to the recipe as time goes on, which then requires more knowledge, practice, trial and error, implementation and training of staff. Though I refer to a recipe, it is far from a cookbook recipe and more like a mystery, with one clue leading to the next that must be problem solved before moving on.

Let’s start with a story of my student, Kaitlyn. Kaitlyn is a very happy, social, fourth-grade student with quadriplegic cerebral palsy. She has wonderful facial expressions, demonstrating smiles, laughter and a few tears, but she is nonverbal. Two days a week, OT and speech co-treat Kaitlyn with the ultimate goal of switch access for a communication device.

Very early on in this journey, Kaitlyn was introduced to switch toys and activities, with many hurdles along the way. Kaitlyn understood the concept of cause-and-effect, she would reach for the switch every time and there she would be stuck on the switch. We tried different positions for the switch and the student, we tried using other body parts to activate the switch, we tried different switch settings with delays, we tried different switches, we talked and problem solved with the vendors. Positioning was our main focus for a very long time, but we continued to plug away on cause-and-effect activities.

Then it happened - she got her hand stuck behind the switch one day and was able to activate and release the switch with her thumb! We had
found the access point, and this was now duplicated in following sessions. We had to diligently practice not interrupting her with verbal encouragement as this would cause a distraction with ultimate reset and restart of her motor process. At this point, we started to collect data and her response time was 30 to 40 seconds. A very light motor cue to her triceps was productive in initiating the movement and the response time started to decrease. It was amazing to us the speed at which she was now progressing.

Now we needed more activities, we needed to progress from cause-and-effect and work on timing and hitting a target. We invested in a subscription to HelpKidzLearn that provided us with 80+ switch accessible games, activities and stories. Kaitlyn had good days and bad days but, overall, was becoming more consistent with her skills within the therapy room.

We were now moving into the second year of co-treating Kaitlyn, and the speech therapist was anxious to move on to communication. The iPad, with a simple choice board of four activities, was introduced. Kaitlyn’s response time and difficulty in hitting a target resulted in failure and lack of interest.

More time and practice was spent on scanning activities from HelpKidzLearn, followed by the reintroduction of the iPad with a two-choice board. As success and consistency increased with a single switch, a second switch was introduced so that we had one for communication and the other for computer activities. The concept of two switches again caused a setback, but we were starting to see she really liked music and number and story activities.

Now Kaitlyn was making good progress, but we, the professionals, ran into the daily problems of technology, including dead batteries, the bluetooth connection conundrum, navigating multiple choice boards, setting up linked boards etc. We pondered how we would ever introduce Kaitlin’s skills to the classroom, when we ourselves continued to have such problems. We spent time on the phone with vendors, we attended Ablenet University webinars, we tried other tools, we developed and posted a checklist for ourselves and we reorganized our choice boards and activities.

It was the end of year two and we were set to implement in the classroom. We decided at this point to only implement the computer switch activities and keep it simple in the classroom. We ordered additional equipment that would remain with Kaitlyn and not be shared with the therapy department or other students. We started with demonstrations and training of staff in the therapy room so as not to add the distractions of the classroom. We moved on to working with Kaitlyn in the classroom during therapy time with ongoing demonstration and training to staff.

Kaitlyn’s skills were met with awe and disbelief. “I can’t believe she can do that.” We had done a thorough job of training and implementation, we thought. At a visit to the classroom one week later, the switches were in a drawer. We provided more demonstration and training and we created an activity log. At the next classroom visit, the switches were present at the computer, but the activity log was missing. We had excellent support from the teacher, but getting Kaitlyn set up at the computer needed to be the classroom assistant’s job. Once set up, it was an independent activity, requiring minimal time on any staff person’s part. It was decided that the activity log would be done for one week to support our quarterly reports, and we were now able to see who needed more support from the comments on the activity log. We now had results and data to show that they were starting to implement in the classroom.

We continued to work with Kaitlyn in therapy to develop additional skills. Now that she was fluent in using a switch, amazing things seemed to happen every week. We knew she liked number activities and started using youtube videos for number and letter activities. I wanted to continue
to increase switch hits and response time and asked her one day to count by tens using the switch to stop a numbers video at 10, 20, 30. I had no idea that she understood this concept, but she proceeded with the activity to 100. We watched with our jaws dropped and tears in our eyes.

This story demonstrates the journey of two fairly well-versed assistive technology professionals. I have attended and taught and written a great deal on the topic of switch access but want to convey that, even for the well-trained professional, this is not an overnight trip but a very long journey.

CONSIDERATIONS AND RESOURCES
When considering switch access, it is important to determine:

- The type of switch appropriate for the person’s skill level.
- Are they visually and motorically able locate the switch.
- Are they capable of a momentary hit, a sustained hold or a quick release.
- Are they able to cognitively and motorically time a switch hit, as needed for scanning row and column.
- The location of the switch for the most efficient and effortless access. This involves finding a consistent, controlled movement that can be easily repeated, many times, without causing fatigue or pain. Typically, upper extremities are considered first, then the head, the mouth and then lower extremities.
- The switch itself should not be the activity. It should be a means to participate in something interesting and motivating on the computer or iPad. Use appropriate prompts, such as “turn the page” or “choose the color.” Do not prompt by saying “hit the switch.”

METHODS OF ASSESSMENT MAY INCLUDE THE FOLLOWING:

- Some tools and forms to assist in assessment and determining computer or iPad access include the WATI Decision Making Guide for Mobile Device and the WATI Decision Making Guide for Computer Access. The SETT Scafold for Tools Selection is designed to assist the team with the feature match process.
- Observation - An observation should be conducted in the environment that the equipment will be used, when possible. The WATI Environmental Observation Guide may be used to assist with an environmental observation.
- Extended trial - The WATI Trial Use Guide may be used to document an extended trial and help to more accurately determine the tool’s
success in various environments and situations.

• Every Move Counts, Clicks and Chats (EMC3) (Korsten, Foss & Berry, 2008) - EMC3 may be helpful to determine what motivates the student. EMC3 is a non-traditional, sensory-based communication and assistive technology assessment and evidence-based intervention strategies for individuals with severe and profound sensorimotor differences.

• SENSwitcher is a suite of teaching and assessment tools programmed by Inclusive Technology. It is an online switch-enabled application that targets skills, from experiential through cause-and-effect, switch building, timed activation, targeting and row scanning.

• Compass Access Assessment Software (Koester Performance Research, 2007) provides a computerized assessment intended to measure the user’s skill with various types of computer interaction. There are eight skill sets in the categories of pointing, text entry and switch use.

SWITCH CHARACTERISTICS TO CONSIDER:

• How big is the switch target surface?

• Which areas actually activate the switch? The center? The edges?

• What does the switch feel like? Is it soft or hard? Does the student prefer or dislike a particular texture?

• How much pressure is required to activate the switch?

• Can the student easily release the switch?

• What type of feedback (if any) does the switch provide when activated?

• Is the student distracted or startled by a “click” sound?

• Is the switch durable? Can it withstand moisture/dirt?

• Is the switch easy to mount? Can it be positioned to accommodate the student in different body positions?

• Does the switch come in a wireless version?

• Many companies provide excellent information on types of switches, one resource is the Abilenet Switch Guide.

ACTIVITIES TO CONSIDER:

• Cause-and-effect toys - this can be rather limiting

• Computer activities - HelpKidzLearn subscription offers a wide variety

• iPad apps - check out Jane Farrall’s list

• Music - use Pandora or iTunes radio!

• You Tube videos - search for for stories, numbers and songs

• Reading - audio books with a play button work with a switch

TOOLS FOR DATA COLLECTION AND IMPLEMENTATION

• WATI Trial Use Guide

• Data Collection form

• Classroom Activity Log

• www.universaltech4learning.com

ADDITIONAL RESOURCES

• www.universaltech4learning.com
  This is my website where you will find additional information, links to documents and forms.

• Youtube “How to Videos”

• Siri, Safari etc.

• Connecting Bluetooth

• Row Column scan

• Assistive Touch

• Switch Accessible Apps

• OCALI - Assistive Technology Internet Modules (ATIM). ATIM is designed to provide high-quality information and professional development on assistive technology (AT) for educators, professionals, families, persons with disabilities and others. Each module guides you through case studies, instructional videos, pre- and post-assessments, a glossary and much more. ATIM modules are available at no cost. Fee-based certificate and credit options are coming soon. For an in-depth study of computer and mobile device access, as well as many other topics, go to the “Using the WATI Assessment Process” tab.
For more like-articles, webinars and up-to-date product information and strategies, check out Closing The Gap Solutions. Contact hours available. 

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