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## Leveling the Playing Field with AT!

*Assistive Technology (AT) is defined in the American Technology–Related Assistance Act (Tech Act) as "any item piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities" (Tech Act, 1988).*

*A much simpler definition could be, "any type of technology or device that aids in lowering the barriers to active participation that persons with disabilities face on a daily basis. It should boost self-confidence, sustain or increase abilities and improve quality of life."*



### Helping Persons With Learning Disabilities (LD)

AT supports persons with LD by assisting them in maintaining, increasing and optimistically improving their physical abilities, academic or employment performances. An essential aspect of AT is ensuring that the technology not only works as advertised, but also that the user can operate it correctly. It sometimes requires much trial-and-error before the end user finds the correct AT device that works properly for them.

Having a disability should not be the reason for a less-than-full lifestyle, especially when there are tools and devices to help overcome challenges. All persons with LD should ensure that they get an assistive/adaptive technology assessment done by a qualified technician. Jan Richards, project manager with Toronto's Inclusive Design Research Centre (IDRC) says, "There are many different learning disabilities, but in general the more that content can be personalized and flexibly interacted with (by touch, voice, keyboard, etc.), especially on mobile devices, the better".

When selecting a particular type of AT over another it is critical that the end-user be the one making the final decision. In order for the technology to become an important asset to LD users they must ensure that it not only fits their personality, but also that mismatch between the AT and the end-user because if a problem develops, typically the consumer will discard or refuse to use the AT.

Cost is often an important factor in choosing AT and persons with LD should consult with their school or school board, employers or other agencies for information on assessment or possible accessibility to funding or training assistance. It may also be worth checking out the Learning

*'... cost is often an important factor in choosing AT...'*

Disabilities Association of Ontario, the Ontario Disability Support Program, the Workplace Safety and Insurance Board, and/or private insurance companies.

Richards notes that, "The app store model has enabled many suppliers to make their offerings widely available at fairly reasonable prices." iPad and the Android market offer numerous free downloadable apps specifically for persons with LD. Another Internet source for safe, free software is CNET's Download.com.

### **Low Tech Assistive Technology**

The first stick used by early man as a crutch was a type of assistive technology. We can also consider car door handles and communication or cork boards as other low tech AT tools. Audio books on CDs have proven to be a great learning asset to many people. The wheelchair ramp running up to your neighbour's porch is yet another form of low tech AT.

Further examples of low tech AT are; canes and walkers, handheld magnifiers, reachers or grabbers, highlighter pens, calculators, Velcro fasteners, daily or weekly pill organizers, grab bars, lever door handles, non-slip materials, large print text, ear plugs, graph paper, etc.

### **High Tech Assistive Technology**

A reminder watch or light signaler alerts for the front doorbell are a couple of high tech devices. Additionally, Bluetooth headsets, power wheelchairs or scooters, computer software programs with voice recognition or talking screens that read in synthetic speech, portable e-book readers, voice-activated day planners, word prediction programs, and electronic pointing devices are other high tech examples.

When queried about the biggest advances in AT over the last decade, Richards says "I would probably say, built-in system-wide access systems such as Apple's VoiceOver for iPhone and iPad. Being built-in means that the ATs are now shipped as part of the Operating Systems (OS) at no additional price. The drawback is that the operating systems are closely-controlled by large companies, so it's hard for consumers to effectively advocate for bug fixes and new features."

It is becoming easier for persons with disabilities to take advantage of the new and exciting technological advances that are now available. For many, a fear of the unknown or of not being able to figure out and to properly use the AT correctly has proved to be a major stumbling block.

"...having a disability should not be the reason for having a less-than-full lifestyle..."

Sometimes we must expand our comfort zone in order for us to move forward. This article was written with the assistance of Word 2010 and the Dragon program.

## What the Future Holds for AT

It is import to remember that technology is constantly evolving and changing. Not only are new technologies being invented but designers and technicians are also revisiting existing tools and are finding ways and means of improving them.

Another factor that will impact on AT is the changing demographics of an aging population. This new crop of seniors will be more computer savvy and will be looking for more technological solutions to solve some of the traditional problems they face. On average they will have more ready cash, and a willingness to spend, to ensure that they have access to the latest and best of AT. Retailers and designers are aware of this and are developing products accordingly, a circumstance that can only prove beneficial to many younger persons with LD.

### **DID YOU KNOW**

*Persons with LD are affected in how they take in, store and process information. Assistive Technology provides support by concentrating on language, organizational skills, reading comprehension and processing information. Some LD focused AT aids:*

- *Help in focusing on tasks by utilizing calendar/task-management software, personal digital assistants*
- *Provide time and task management programs i.e. Post it note software, Email reminders or chimes, Scheduling (phone etiquette) reminders*
- *Utilize environmental controls i.e. Noise-canceling headphones, headsets, Environmental Control Units (ECU) to interact with and control environments, sensory stimulation*
- *Supply classroom teaching aids i.e. Lightweight laptop computers that electronically captures handwritten notes, phonetic spelling, talking calculators, word prediction software*
- *Aid in finding lost items i.e. Wireless item locator remote controls*