

Compendium of Adaptive Technologies

A resource guide for
adult educators

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*Simcoe/Muskoka
Literacy Network*

Introduction

In 2010-11, Simcoe/Muskoka Literacy Network (SMLN) identified a need for a consolidated list of adaptive technology to help people with learning and other challenges that may affect their learning. Through field support funding from the Ministry of Training, Colleges and Universities, we researched and compiled this compendium which also includes some training opportunities for practitioners using the technology with students.

Although some of the information you find here tends to be fluid in nature, as web sites change over time and cost of products fluctuate, we hope you find resources that will help your students and will add to your teaching toolkit.

Most of the items we've included are free or low in cost, but others are included, to give you a complete overview of available products.

Acknowledgements

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Free Assistive Technology for People with Learning Disabilities, June 23, 2009 workshop - The Centre for Literacy of Quebec.

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Adaptive Technology Software (for purchase)

Some of the most widely used and well-known adaptive software:

- Kurzweil 3000™
- Read&Write
- Dragon Naturally Speaking
- Inspiration

Kurzweil 3000™

Kurzweil 3000 is a comprehensive reading, writing and learning software solution for any struggling reader, including individuals with learning difficulties, such as dyslexia, attention deficit disorder or those who are English Language Learners (ELL). As an integrated literacy software, Kurzweil 3000 can read text aloud to students from digital and print formats. Kurzweil 3000 includes the highest quality Optical Character Recognition (OCR) software available, which reproduces scanned print documents with the exact layout and formatting found in the original. Scan single sheets to entire textbooks. Free 30-day trial available; professional version \$1,200. Also available with no scanning capability for around \$500.

<http://www.kurzweiledu.com/kurz3000.html>

Read&Write GOLD (for Windows) Read & Write 4 GOLD (for MAC)

Similar to Kurzweil, less expensive and can read math!

Read & Write highlights and reads text aloud using natural sounding voices and also includes a comprehensive set of support tools for reading, writing, studying, research, and test taking. The product is a customizable easy-to-use toolbar that directly integrates with familiar applications, including Microsoft Word, Internet Explorer, and Adobe Reader, allowing students to access the support tools they need from within the programs they use every day. Free 30-day trial available. Approximately \$700 for a single license.

<http://www.texthelp.com/page.asp>

Dragon Naturally Speaking

Dragon Naturally Speaking is a speech recognition software package developed and sold by Nuance Communications for Windows. Words appear in a floating tooltip as they are spoken. The software has three primary areas of functionality: dictation, text-to-speech and command input. The user is able to dictate and have their speech transcribed as written text, have a document synthesized as an audio stream, or issue commands that are recognized as such by the program. Tiered versions available starting at \$99.99U.S. <http://www.nuance.com/dragon/index.htm>. Dragon Speaking Naturally for MAC is now available: <http://www.nuance.com/for-individuals/by-product/dragon-for-mac/dragon-dictate/index.htm>

Inspiration 9 for Grade 6-Adult

Inspiration is used for visual mapping, outlining, writing and making presentations. With Inspiration 9, students will:

- brainstorm ideas, structure thoughts and visually communicate concepts to strengthen understanding with the Diagram and Map Views (the ability to add visual cues)
- take notes, organize information, and structure writing for plans, papers and reports, use the integrated Outline View to focus on main and supporting ideas and to clarify thinking in written form
- communicate ideas clearly and demonstrate understanding and knowledge

Free 30-day trial available; download purchase price \$69.00.

<http://www.inspiration.com/>

Adaptive Technology Software (free)
(recommended by The Centre for
Literacy of Quebec in 2009 – updated by SMLN in 2011)

Reading Software

Free NaturalReader 7

<http://www.naturalreaders.com/download.htm>

NaturalReader software is a professional text-to-speech program that converts any text into spoken words. Free NaturalReader lets you listen to text instead of reading on screen. You can have your computer speak any text aloud in a clear, natural sounding human voice. Free NaturalReader is an easy-to-use text-to-speech program. Available for MAC as well.

ReadPlease (Free Edition)

<http://www.readplease.com/english/downloads/#rp2003>

ReadPlease 2003 (Free Edition) offers full support for all Microsoft voices, reads text via Windows clipboard from any program. Adjustable voice speed (rate), low-vision colour option and much more.

Speakonia

http://download.cnet.com/Speakonia/3000-7239_4-10125328.html

Speakonia is a Text-To-Speech Program which is controlled through a graphical user interface (Similar to Notepad). Speakonia reads aloud any given text. The reading can be paused, resumed and can be exported to a wave file. Speakonia is able to fetch web pages through an internal http interface and read them aloud for you. You can have your e-mails read to you using the 'Clipboard Reading' feature.

Mozilla Firefox with CLiCk speak extension

http://www.accessfirefox.org/CLiCk_Speak.php

Speak is an open source, freely available extension for the Firefox web browser. The CLiCk Speak extension is an easy-to-use talking browser add-on for Firefox. At the press of a button, CLiCk Speak will read the contents of a web page that you have highlighted, or it can read the contents automatically. You can choose to access CLiCk Speak through the context menu, or via the CLiCk Speak toolbar.

Scanning and OCR

SimpleOCR

<http://www.simpleocr.com/Download.asp>

Convert your scanned images to text files or Word documents with SimpleOCR--the only OCR (Optical Character Recognition) application that is completely free. SimpleOCR is also a royalty-free developer toolkit (aka SDK or API) that you may use to add OCR to your custom software application. SimpleOCR features include TWAIN scanning, ability to manually specify text and image zones, English, French and Dutch dictionaries, interactive correction with suggestions from dictionary, output to plain text or RTF (MS Word) formats and more. It provides all of the most commonly used OCR features and competitive recognition rates for many types of documents. If you just need to convert a few documents to text to save retyping, SimpleOCR will save you hours of time without the \$75-\$700 cost.

Organization and Planning

FreeMind

<http://freemind.sourceforge.net/wiki/index.php/Download>

FreeMind is intended for editing Mind maps, XML/HTML documents, and directory trees. In future, even network-structures will be supported such as Topic Maps (ISO). All this data is represented to the user as a Mind map. This is achieved with a modular design, which makes it possible to easily write modules, only designing the model of the problem (the data structure), without caring for the visual representation at all. Currently a Mind Mapping and a File Mode are implemented. Version 0.8.1 is a bug-fixing release.

Dia

<http://dia-installer.de/>

Dia is open-source visual-editing software that can be used to draw many different kinds of diagrams. It currently has special objects to help draw entity relationship diagrams, UML diagrams, flowcharts, network diagrams, and many other diagrams.

Rainlendar Lite

http://www.rainlendar.net/cms/index.php?option=com_rny_download

Rainlendar is a feature-rich calendar application that is easy to use and doesn't take much space on your desktop. The appearance can be customized with skins and it has been localized to many languages.

Writing and Editing

WordWeb

http://download.cnet.com/WordWeb/3000-2279_4-10003201.html?part=dl-WordWeb&subj=dl&tag=button

This thesaurus/dictionary can be used to look up words from almost any program. In addition to displaying sense definitions and synonyms, WordWeb can find sets of related words. The database has more than 150,000 root words and 120,000 synonym sets, many proper nouns, pronunciations, and usage tags. WordWeb works off line, but when online you can also quickly view Web references such as the Wikipedia encyclopaedia.

OpenOffice.org

<http://www.openoffice.org/>

OpenOffice.org 3 is the leading open-source office software suite for word processing, spreadsheets, presentations, graphics, databases and more. It is available in many languages and works on all common computers. It stores all your data in an international open standard format and can also read and write files from other common office software packages. It can be downloaded and used completely free of charge for any purpose.

Global Spell Check

http://download.cnet.com/GlobalSpellChecker/3000-2079_4-10443586.html?tag=mncol

GlobalSpellChecker is a tool for checking spelling or meaning of words from any application using Microsoft Word. It displays the meaning or spelling suggestion in a non-disturbing way so that you do not have to shift from the application you are working.

Ease of Access

Virtual Magnifying Glass

http://portableapps.com/apps/accessibility/virtual_magnifying_glass_portable

Virtual Magnifying Glass Portable is the handy Virtual Magnifying Glass utility packaged in PortableApps.com Format so you can easily use a screen magnifier on any PC you use.

Click-N-Type with Word Prediction

<http://cnt.lakefolks.com/#Download Click-N-Type>

Click-n-Type is an on-screen virtual keyboard designed for anyone with a disability that prevents him or her from typing on a physical computer keyboard. As long as the physically challenged person can control a mouse, trackball, touch screen or other pointing device, this software keyboard allows you to send keystrokes to virtually any Windows application or DOS application that can run within a window.

Speech Recognition (built into Windows Vista and Windows 7)

Speech Recognition empowers you to interact with your computer by voice, significantly reducing the use of a mouse and keyboard, while maintaining or increasing your overall productivity. Speech Recognition is particularly useful for people who have difficulty with dexterity or have limited use of their hands and arms, because it reduces or eliminates their need for a mouse and a keyboard while enabling them to maintain or increase their productivity. With Speech Recognition, you can dictate documents and e-mail, fill out forms on the web, and command applications and the operating system by saying what you see.

Universal Access Features built into Mac OS X

Speech recognition is also built into Mac OS X. It does not require any voice training and can be used immediately with the built in microphone available on most Apple computers. The Mac system does not allow dictation of documents and e-mail, but *Speakable Items* comes with an adjustable set of commands that allow spoken control for all menus, menu items, and buttons, even for nearly all non-Apple produced software.

Text to Speech

Mac OS X comes with a selection of voices that speak on-screen text that you select. The speaking rate is adjustable and the voices work with all applications that support the Mac OS X Speech engine. The voices included in Mac OS X Snow Leopard speak in English, but voices in additional languages are available separately.

VoiceOver is an advanced, full-featured screen-access technology that makes it possible for those who are blind or have low-vision to control their computer. VoiceOver uses speech to describe what is happening on your computer, and you can use it to control the computer without seeing the screen. VoiceOver in Mac OS X 10.6 Snow Leopard will also read USB and Bluetooth wireless braille displays.

There are several other accessibility features to help with Seeing, Hearing, Keyboard, and Mouse. For example, you can set the computer so you don't need to use the mouse.

Hardware Support

Learning Disabilities

Digital recorders with counter numbers: Allows a student to record a session, and mark specific points on the recorder, to replay later.

There are many brands on the market starting at around \$55.00.

For example: Dell offers the Olympus VN-7000 Digital Voice Recorder for \$59.99:

Lots of memory in an easy-to-use device

This full-featured and easy-to-use recorder makes recording meetings or daily reminders a snap. The 2GB internal memory, more than 1,200 recording hours, index marks and long battery life make this Olympus voice recorder a joy to use.

- 2GB memory, 1208 hours recording time
- Variable Control Voice Actuator
- Long Battery Life (up to 39 hours)
- Index marks let you specify a particular point in a recording or playback for easy retrieval.

Livescribe Echo Smartpen (2, 4 & 8GB): Records everything you write and synchronizes it to everything you hear. You can also search your handwritten notes using your keyboard, just as you can with the Echo pens, and also create PDFs, pencasts, etc.

Starting at \$159.00 for the 2GB model: \$310 for the 8GB
(<http://www.smartpencentral.com>)

The Echo 2gb bundle includes:

- 1x 2gb Echo™ smartpen
- 1x four-pack of student notebooks, Numbers 1 through 4
- 1x set of ink cartridges (4x blue-medium and 1x red-fine)
- 1x copy of MyScript software
- ... and 1x "Lost and Found" sticker-card at no charge!

The 2GB of memory can hold almost 200 hours of audio. Actual recording time varies by audio quality setting. Requires Windows XP™ 32-bit SP2 or higher, Windows Vista™ 32- or 64-bit, Windows 7™ 32- or 64-bit operating system, or Intel Mac with Mac OS X 10.5.5 or newer.

The MAC version of the Livescribe, can also be purchased from Apple at:
http://www.store.apple.com/ca/browse/home/shop_mac/mac_accessories/mice_keyboards.

Mobility Impaired Learners

Alternative Mice: Ideal for people with poor motor control. Various products are on the market, here's one that came recommended:

The BIGtrack has a 3-inch trackball which makes it the largest trackball available. The large ball requires less fine motor control than a standard trackball and it is ruggedly built. It has a left and a right mouse click button located behind the trackball to avoid unwanted mouse clicks. The BIGtrack also allows for 2nd Mouse Connection both the BIGtrack and a second mouse can be connected allowing simultaneous participation. The bright large 3" trackball helps to make mouse movements easy and accurate while the oversized buttons make mouse clicks simple for those with poor motor control. For even more access the BIGtrack is available in a switch adapted version. The switch adapted BIGtrack comes with two standard 1/8" plugs for two switches. Its left and right mouse clicks have been adapted so that you can use a switch for activation. (Switches sold separately) \$87.00

Alternative Keyboards

Various one-handed keyboards are on the market. Notably, Maltron, carries the most ergonomically advanced one-handed keyboards, but the price can be prohibitive (\$1,305.87).

An alternative to consider is a mini-keyboard. The smaller size allows someone with reduced hand mobility to function more easily. Prices for mini-keyboards begin around \$60.00.

Deaf/Hard of Hearing learners

Neck-looped Amplifiers

A hands-free solution for T-coil hearing aid users. Available from ALDS (Assistive Listening Device Systems) \$69-\$200+ www.alds.com

Visually Impaired Learners

Irlen Coloured Overlays

The Irlen Method is non-invasive technology that uses coloured overlays and filters to improve the brain's ability to process visual information. It is the only method scientifically proven to successfully correct the processing problems associated with Irlen Syndrome.

This technology can improve reading fluency, comfort, comprehension, attention and concentration while reducing light sensitivity. It is a colour-based technology that filters out offensive light waves, so the brain can accurately process visual information. Overlays sample pack \$48.50U.S., individual coloured overlays \$4.00U.S. Eye-glass filters are also available. More information can be found at www.irlen.com.

Large-print Keyboards

These user-friendly computer keyboards feature large, high-contrast, white lettering on black keys or black lettering on yellow keys. Available from CNIB for \$34.95. Large-Print Keyboard Labels also available – www.cnib.ca/shop

Jumbo Talking Calculator with Display

A high-visibility talking calculator with large LCD display and clear voice announcements. Voice output has three sound levels and can be muted. Available from CNIB for \$39.95. Other models also available. www.cnib.ca/shop

Hand-Held Magnifiers

Numerous models and magnifications available at CNIB – www.cnib.ca/shop

Other magnifiers available: Electronic (reading mouse that displays magnified image on a screen - quite pricey), over-lay sheets in various sizes, visors, monitor over-lay and other hand-held devices. www.cnib.ca/shop

Practitioner Training

Practitioner training in the Simcoe-Muskoka area is limited, but here are some good resources:

Georgian College, Barrie Campus, Centre of Access offers training in the various software and hardware available to students with learning disabilities and other challenges. Software includes Kurzweil, Dragon Naturally Speaking and Inspiration.

Contact: Norma Hart, Adaptive Technologist, Georgian College, Barrie Campus – Centre for Access (705) 728-1968 x1350

CESBA (Ontario Association of Adult and Continuing Education School Board Administrators):

Learning Disabilities Initiative Project:

There are two parts to the Learning Disabilities Initiatives Project. Part One is to research and analyze some of the recent resources on learning disabilities and adult learners that are available in order to determine whether some are more appropriate than others to use within the framework of the school board LBS environment. The second part is to use the models of good practice that these resources support and find examples of their successful application already in use by our sector. At the same time, the Practitioner Training Strategy (for school boards) is being developed. It contains a module for working with learning-disabled adults for practitioners and will closely connect to this report. (http://www.cesba.com/pdf/initiatives_report.pdf).

Literacy Link South Central

Learning Disabilities Training: A New Approach, August 2003:

This training manual consists of 5 modules:

- Module 1: Characteristics of Adults with Learning Disabilities and Understanding the Initial Screening Process
- Module 2: Assessing Individual Strengths and Struggles: The Foundation of an Effective Training Plan
- Module 3: Building an Effective Training Plan: Incorporating Learner-Centred Strategies

- Module 4: Accommodations, Self management and Transition planning: Keys for Success
- Effective Instructional Methods

To obtain a copy, please contact: Literacy Link South Central, London, Ontario (519) 681-7307 or literacylink@bellnet.ca

A copy of this training manual can also be borrowed from the Simcoe/Muskoka Literacy Network.

Learning Disabilities Association of Ontario: www.ldao.ca

Professionals Workshop Series: Introduction to LD

- **Part 1: An Overview of Learning Disabilities - \$30.00**
- **Part 2: Strategies for the Classroom Teacher - \$30.00**
- **Part 3 ADHD Workshop for Educators - \$30.00**

All workshops are designed as a self-paced online workshop to meet the needs and time commitments of busy professionals.

Contact email: courses@ldao.ca; to order by phone call 416.929.4311 x. 29