

Learning Tools that Work

A survey of adaptive technology
in learning programs.



A project by:

Action Read
COMMUNITY LITERACY CENTRE



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Introduction

This manual was originally developed to accompany four online training modules for literacy practitioners in Ontario as part of a project funded by Human Resources and Skills Development Canada, National Literacy Secretariat in 2005.

Learning Tools that Work provides an overview of a selection of adaptive technology and assistive devices that have been field tested at Action Read over the last four years. The information in this manual has proved useful to educators in a variety of contexts including literacy, adult upgrading, special needs, classroom instructors and learning disabilities specialists who are trying to find resources for specific learning needs for both children and adults. In recognition of the limited budget most programs have, this survey includes information about the types of technology available, its benefits, cost, best uses, limitations, where to purchase and low cost/low tech alternatives.

Through our research on adaptive technology at Action Read we have been able to observe how the software can benefit people with a whole spectrum of learning challenges and have seen the profound impact this technology can have on people's learning and self-esteem. We want to share this information with others in the hopes of promoting adaptive technology usage in learning programs as a sound alternative and an important accommodation for people with learning barriers. We hope that you find this manual useful.

Action Read Community Literacy Centre
Guelph, Ontario
2005

Adaptive and Assistive Technology

A Clarification of Terms

The terms adaptive (ADT) or assistive (AT) technology are often used interchangeably. For the purposes of this manual, the term ADT is used to describe computer software programs that help students maximize their abilities at school, at work and in daily life. The term AT is used to describe devices that help people negotiate physical barriers in their environment. Trackball mice and enlarged keyboards are examples of AT.

Benefits

Adaptive technology can benefit people with a variety of learning needs and challenges in many areas of their lives. These benefits cross age, ability, language level and health challenges. Computer based technology can assist with challenges that may include; learning disabilities, blindness or low vision, hearing loss or deafness, or chronic health issues. When ADT is well matched to the learner's needs, it increases independence and provides people with tools that improve learning and job opportunities. Many people find that using ADT improves their self-esteem, their ability to function independently and ultimately their quality of life.

Learning difficulties are not always outgrown. Learning difficulties may persist into adulthood, despite years of intervention. These learning difficulties may include; reading, writing, math, organization and social skills. While ADT often serves to augment interventions that are already in place, they may in fact offer a compensatory means of addressing specific learning difficulties.

This software can now go anywhere the user goes. The availability of easily portable AT devices (many of which are pocket-sized) allows individuals to transport a compensatory tool which may be used for organizing a class report, writing a letter to a friend at home with the assistance of a word processor, checking for spelling errors in a memo to a co-worker, or using a calculator to help keep score in a card game. Laptop computers allow adults to take their own software into workplaces and schools to assist with functions they could not do independently.

Types of Adaptive Technology

ADT programs fall into many categories including, but not limited to: text-to-speech, word prediction, voice recognition and writing organizers. The following is an overview of these types of ADT software.

Text-to-Speech

Text-to-Speech (TTS) or speech synthesizers recognize on screen information in the form of letters, numbers, and other characters, and then read it out loud to the user via synthesized speech. Speech synthesizers enable computer users with visual impairments or learning difficulties to hear what they are typing or to have text from various sources read out loud. People, who have difficulty communicating verbally, also find speech synthesizers to be valuable communication tools.

Most text-to-speech programs highlight text as it is read. Some individuals find that receiving auditory feedback of what they see in print increases comprehension and is a launching pad for information gathering for any number of research purposes eg. Finding a recipe, writing a college paper. Most programs include speech features to control the speed and pitch of the voice. Some programs will even allow you to choose the gender of the speaker. Highlighting and text sizing are optional features and need to be considered when choosing a speech program to match specific needs.

Text-to-speech technology can be integrated with Optical Character Recognition (OCR) systems. OCR scans a page of text, analyzes images and converts the pictures of the characters to text to be read out loud. OCR allows users to export the converted text and use it with a variety of word-processing, page layout and spreadsheet applications.

Some OCR programs have built in "scan and read" features. Other OCR programs when used in conjunction with text to speech software enable individuals to access printed materials they are not able to read. Some OCR programs provide the option to convert the document to MP3 format for later listening.

The impact of this technology on reading difficulties has been demonstrated in the following study:

"Higgins & Raskind (17), in a study of postsecondary students with LD, found that severely disabled readers improved reading comprehension scores when using OCR. In addition, they found an "inverse correlation" between silent reading without assistance and reading with an OCR system, such that, the greater the severity of the reading disability, the more the technology elevated reading comprehension scores."¹

1. Higgins, E.L., & Raskind, M.H. (1997). The compensatory effectiveness of optical character recognition/speech synthesis on the reading comprehension of postsecondary students with learning disabilities. *Learning Disabilities: A Multidisciplinary Journal*, 8, 75-87.

Word Prediction

Word prediction technology is used to assist with text entry. It starts by predicting the current word being typed and then based on word frequency and context it is able to predict the next word to be used. Some word prediction software includes spell check, speech synthesis, and “hotkeys” for frequently used words. These programs are particularly useful for people who have limited fine motor abilities, type slowly, use probes or pens. They are also valuable for people with minor visual impairments or dyslexia.

Voice Recognition

Voice recognition systems (voice-to-text, speech-to-text or speech recognition programs) allow users to enter text by verbal command rather than by typing. These systems can be used to create, letters, memos, e-mail messages, essays or to browse the Internet, and navigate various applications.

Graphic Organizers

Some individuals find the writing process difficult, particularly the planning stage. There are many organizational tools available that can help to provide frameworks for planning or for composition during different stages of writing. These programs use semantic maps and a variety of graphic organizers to facilitate the writing process. Some graphic organizers include Draft: Builder, Spark-Space Learner and Inspiration.

Existing Software

A number of commonly used software programs contain accessibility features that will allow the programs to be more usable for struggling students. Many users are unfamiliar with the capabilities of these programs. For a description of programs and suggestions please see page 24 of this manual.

Assistive Devices

This manual will also feature information about a few of the many assistive devices that have been developed. Assistive devices help people negotiate physical barriers in their environment. Assistive devices can vary from Braille embossers (hardware device for “printing” a hard copy of a text document in Braille) to alternative keyboards. An example of an assistive device that helps individuals with limited mobility/fine motor control is an alternative mouse in place of the standard computer mouse.

Chapter 1:

Reading Support Software

Reading Support Software are tools that help individuals with learning difficulties improve their reading and comprehension. There are currently four commonly used software programs that provide reading support. Their features vary from straight forward document readers to complex, multi functional / multi sensory tutors.

Kurzweil 3000 Version 9

"I wish Kurzweil had been available years ago. It would have helped me get better grades."

James

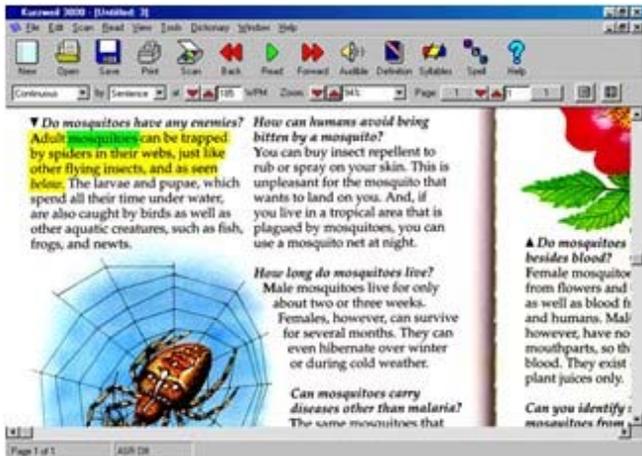
Main Features

- Advanced scanning ability - scans documents and converts them to speech with excellent quality
- Powerful decoding, study skills, writing and test taking tools, designed to adapt to individual learning styles
- Multi-sensory approach to learning with human-sounding synthetic speech

Description:

Kurzweil 3000 is able to read aloud virtually any electronic file on a computer or on the Internet, using synthetic speech. The professional version has the ability to scan and read any typewritten document. To use this function the user clicks the mouse to position the cursor at the point from which he or she wishes reading to commence. Words are highlighted as they are read. This makes tracking easier. Unfamiliar words can be broken down into syllables using the syllabification tool and defined using a built-in electronic dictionary.

Other key features of Kurzweil include the 'Study Skills' toolbar. Text highlight and extraction tools are unique to this program. The user has extensive control over menus, colours, fonts, and voices. The Kurzweil Professional version includes optical character recognition (OCR) for use with the scanner that allows for the conversion of electronic files, web pages, etc., into Kurzweil 3000 image files. Kurzweil 3000 can read in French, German, Spanish, and Italian and is paired with dictionaries that allow the user to edit in those languages.



(Kurzweil's Scan/Read highlighting feature)

Best uses:

Kurzweil 3000 is excellent for individuals who want to have access to books, magazines, the Internet or word processing documents. Kurzweil 3000 is designed to improve reading speed and comprehension, and is ideal as a compensatory reading program for students with learning disabilities. Kurzweil 3000 also provides additional support in the form of language tools including dictionary, thesaurus, syllabification and phonetic spelling.

Kurzweil 3000 can also be used to assist individuals who have difficulty with a range of reading and writing problems including:

- Weak reading and reading comprehension skills
- Trouble with fluency and flow
- Skipping lines, words, letters, and numbers in oral reading
- Substituting, omitting and/or transposing letters, words, syllables, and phrases
- Losing place on page
- Poor spelling skills
- Problems with grammar, syntax and idea organization; for example does not include all parts of an organized paragraph

The following Kurzweil 3000 products are also available:

Kurzweil 3000 Learning Station (Read only)

Kurzweil 3000 for Windows LearnStation allows users to open previously scanned documents and other electronic documents. Users who have more than one copy of this product often have a combination of Kurzweil 3000 Professionals and Kurzweil 3000 LearnStations.

Kurzweil 3000 Professional (Scan/Read Black & White)

Kurzweil 3000 for Windows Professional Black and White provides the same features as the Colour Professional product, but documents can be scanned in black and white only.

Documents scanned in colour using the Professional Colour product can be displayed in colour with Professional Black and White and LearnStation products.

Kurzweil 3000 Professional (Scan/Read Colour)

Kurzweil 3000 for Windows Professional Colour facilitates for the creation and delivery of electronic documents. Documents can be scanned in colour or black and white and opened from different applications and saved into the Kurzweil 3000 format. Kurzweil 3000 users who only have one copy of the product typically find it best to have a Kurzweil 3000 Professional, which allows them to create and prepare documents as well as use the reading, writing and learning tools.

Kurzweil 3000 for Windows Learning Lab Packs

This product includes a mix of Professional and LearnStation software, which is usually used by large organizations, which require multiple copies of the product.²

Limitations:

The main limitation of Kurzweil 3000 is the price. The word prediction feature may not be as effective as other word prediction programs. The font and size of text in the word prediction box cannot be adjusted, and requires two keystrokes to select a word from the prediction list. Although the program can read directly from web pages without the need to select a block of text, its compatibility with Internet Explorer may be inconsistent.

When opening the 'Read the Web' option, it is necessary to wait until each page has opened completely so that the highlighting feature correctly locates the initial word from which the user wishes to commence reading. Overall, it is an excellent program!

2. To view more information about this software, visit the Kurzweil Education Systems Inc. website at:
www.kurzweiledu.com

Where to Buy The Software:

Kurzweil Educational Systems Inc.

www.kurzweiledu.com

or

Bridges-Canada

2121 Argentia Rd. Suite 102

Mississauga, ON L5N 2X4

T: 905-542-7232 & 1-800-353-1107

Contact: Claire Zeijdel, General Manager

Ext. 222

E-mail: claire@bridges-canada.com

Cost:

Kurzweil 3000 Learning Station (Read only) \$529.00

Kurzweil 3000 Professional (Scan/Read Black & White) \$1325.00

Kurzweil 3000 Professional (Scan/Read Colour) \$1775.00

*** Note: All prices are based on supplier quotations made available at the time of publication. Website links are accurate as of the publication date.**

ReadPlease 2003

Main Features

- Free to download from the Internet
- Reads any text you can highlight
- Uses synthesized speech by AT&T



Description:

ReadPlease 2003 is a simple, straightforward document reader. It comes in two versions. The free download version can read aloud any text that is pasted into its text window. The commercial version ReadPlease Plus 2003 adds the ability to read any selected text (by hitting ctrl-c) and can start reading from anywhere in the text. A limitation is that reading speed is controlled by a slider, but the words-per-minute rate is not displayed. For its low cost and ease of use, this program is a winner.³

Best uses:

ReadPlease is easy to use. It is helpful for individuals who may:

- Have low vision
- Have difficulties with reading
- Substitute and omit words
- Lose place on page
- Skip lines, words, letters, and numbers
- Guess at unknown words and thus compromise comprehension
- Have a limited budget

Limitations:

ReadPlease 2003 (the free version) can read text that is pasted into its text window, but only from the beginning of the document. Upgraded AT&T synthetic speech voices must be purchased separately. Scanning requires multiple steps. For a free program it is superb!

3. To view more information about this software, visit the ReadPlease Corporation website at: www.readplease.com



(This is what the interface for ReadPlease looks like)

Where to Buy The Software:

ReadPlease Corporation

121 Cherry Ridge Road
Thunder Bay, ON, Canada
P7G 1A7
Phone: 807-474-7702
E-mail:
Website: www.readplease.com

Cost:

ReadPlease 2003 is Free

ReadPlease Plus 2003 \$49.95 - \$59.95 U.S.

"The voices are
really good and I
like this program."

Cheri

textHELP Read & Write Gold

Version 7

Main Features

- Operates with most word processors
- Scans any text document or saved image into MS Word or HTML
- Converts text to MP3, WMA, or WAV files to listen to documents while on the move

Description:

Read & Write Gold by textHELP is a text-reader that also checks spelling, corrects mistakes, and includes a word prediction feature. It operates with any Windows application, including word-processing, spreadsheets, databases, desktop publishing, e-mail, and the Internet.

Best uses:

Read & Write Gold is a great tool for people who:

- Have weak decoding
- Read with limited fluency
- Substitute, omit, and/or transpose letters, words, syllables, and phrases
- Lose place on page
- Skip lines, words, letters, and numbers
- Guess at unknown words and therefore compromise comprehension
- Have difficulty spelling
- Have difficulties with grammar, syntax and organization

Limitations:

The text box scrolls line-by-line, instead of by larger blocks of print. When it is full, reading long passages can be particularly tiring. The dictionary contains complex language but is not comprehensive.

-
4. To view more information about this software, visit the textHELP website at:
<http://www.texthelp.com/home.asp>



Where to Buy The Software:

Planet Micro

42 Havenwood Way
London, ON N6H 5B8
Phone: 519-657-4873 or 1-888-89-CDROM (888-892-3766)
E-mail: sales@planetmicro.com
Website: <http://www.planetmicro.com/>

Cost:

Single user \$685.50

2 – 5 copies \$663.00 each

"I loved the characters. They made it easy to use."

Meena

WYNN 4.0

Main Features

- Colour-coded rotating toolbars create a simple interface
- Words are highlighted and spoken simultaneously
- Uses human-sounding AT&T Natural Voices

Description:

WYNN is a program that highlights text as it is spoken. It features four colour-coded, rotating toolbars. WYNN provides a simple point-and-click interface and is extremely easy to use. The toolbars include file management, visual and auditory presentation of text, traditional study tools, writing aids and Internet use. Wynn now offers homophone support.

Best uses

WYNN can also be used to assist individuals who have difficulty with a range of reading and writing problems including:

- Weak reading and reading comprehension skills
- Read with limited fluency
- Reread or skip lines in oral reading
- Substitute, omit, and/or transpose letters, words, syllables, and phrases
- Lose place on page
- Skip lines, words, letters, and numbers
- Poor spelling skills
- Problems with grammar, syntax and organization: for example does not include all parts of an organized paragraph



(WYNN's rotating toolbar)

Limitations:

The main limitation of WYNN is the price. It might be a bit expensive for some individuals. Other software may be better value for the same functions.

Where To Buy The Software:

Planet Micro

42 Havenwood Way

London, ON N6H 5B8

Phone: 519-657-4873 or 1-888-89-CDROM (888-892-3766)

E-mail: sales@planetmicro.com

Website: <http://www.planetmicro.com/>

Cost:

Wizard \$1199 Reader \$500

WYNN Wizard includes optical character recognition (OCR), the ability to scan printed pages and convert them into electronic text. Speech synthesis enables this scanned text to be read aloud. Additionally, WYNN Wizard can read word processing documents, PDF files, text files, and the Internet.

WYNN Reader includes all features of WYNN Wizard except OCR, or scanning. Additionally, files that have been previously scanned and saved using WYNN Wizard can be read with WYNN Reader.⁵

**"WYNN really helps
me write things so
much faster."**

Jess

5. To view more information about this software, visit the Planet Micro website at:
<http://www.planetmicro.com/>

Chapter 2:

Writing Support Software

Writing Support Software are computer programs that can help with written expression as well as the physical act of putting words onto the paper. This section will feature everything from word prediction programs to graphic organizers.

Word Q

Main Features

- Works with any text-editing program (Word, WordPerfect etc.)
- Removes unwanted spaces and inserts correct spacing around punctuation
- Suggests the current and next word using previous word knowledge
- Reads the words out loud as you type

Description:

Word Q was created in collaboration with students and teachers from the Bloorview-MacMillan Centre in Toronto. It is easy to use and works well with Microsoft Word. The word prediction drop down box is conveniently small and moves alongside cursor placement. Its word prediction options are highly accurate and adapt to each user quickly. Word Q is available in French and English. ⁶

Best uses:

Word Prediction programs are helpful for individuals who have problems with word retrieval, writing and editing. It is particularly useful for people who type slowly, who use pens or probes and for people who have difficulty with word retrieval. This program is also beneficial to individuals with learning disabilities and people with minor visual impairments as word choices can be read aloud to the user via synthetic speech.

This has been one of the most popular programs with adults at Action Read. People find it easy, allows them to work independently and it instantly rewarding. It is highly recommended for adults with basic literacy difficulties.

6. To view more information about this software, visit the Word Q website at: <http://www.wordq.com/>

Limitations:

Word Q has few limitations. There are some incompatibility issues at times where the software has to be rebooted before it wants to run. Users have found that it often needs to be opened before the word processing program.



(Word Q's main toolbar and word prediction drop down menu)

Where To Buy The Software:

Quillsoft Ltd.

2416 Queen Street East

Toronto, ON M1N 1A2

CANADA

Tel: (416) 698-0111

1-866-62WORDQ

1-866-629-6737

E-mail: sales@quillsoft.ca

Website: <http://www.wordq.com/>

Cost:

Single user license \$276.00 (taxes included)

"I cannot write a sentence on my own without getting stuck. Word Q really helped me fulfill a dream of writing my life story without having someone standing over my shoulder every minute."

Donna

Inspiration 7.6

Main Features

- Excellent for visual students who think in pictures rather than words
- Easy to brainstorm, create concept maps, semantic maps and flowcharts
- Outline view helps create clear, concise written documents

Description

Inspiration 7.6 is a graphic organizer that uses visual learning techniques, which help individuals organize their ideas and present information. Inspiration appeals to individuals who are visual students. This software uses diagrams and graphic organizers to help construct patterns and organize ideas in order to facilitate the writing process.⁷

Best uses:

This software works well for individuals who demonstrate writing skills that are inconsistent with their verbal and/or cognitive abilities. It specifically, helps individuals who have difficulty organizing their thoughts and ideas on paper

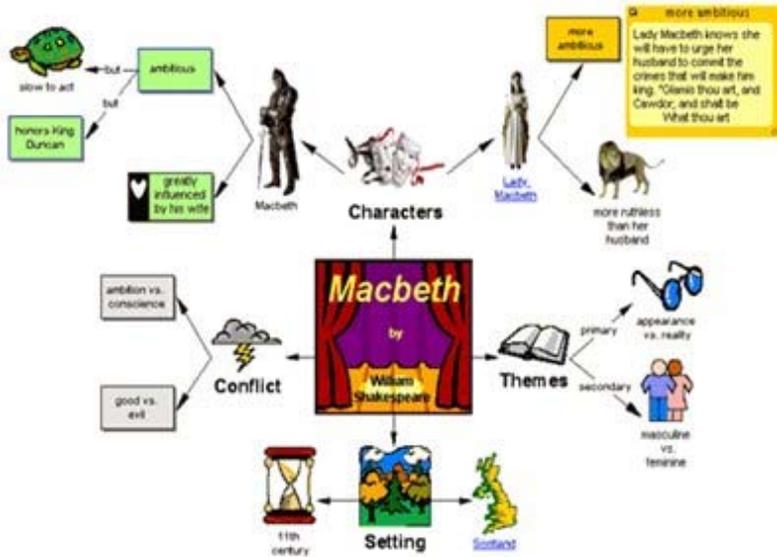
Limitations:

Although Inspiration is probably designed to make emerging writers more self-motivated and self-sufficient, many individuals have difficulty using it independently.

"I have dyslexia, I think in pictures. [Inspiration] really helps me organize my thoughts."

Susan

7. To view more information about this software, visit the Inspiration website at: www.inspiration.com



(A sample of an Inspiration template)

Where To Buy The Software:

Strategic Transitions Inc.

International Inspiration Software Distributors
 9 Industrial Parkway South, Units 7 & 8,
 Aurora, ON Canada
 L4G 3V9
 Tel: 1-800-726-7784
 E-mail: sales@strategictransitions.com
 Website: <http://www.strategictransitions.com/>

Inspiration Software Inc.
 503-297-3004
www.inspiration.com

Cost:

Single user \$89.00

Freeware

The following are free software programs that can be used for writing that are similar to some of the existing word processors available on the market.

EasyWord

EasyWord is a simple word processor and it is free to download from the Internet. Some of its features include: voice read-back of spelling mistakes or entire documents. This freeware can be downloaded at <http://www.download.com/3000-2079-10054140.html>.

OpenOffice

OpenOffice by Open Source Software contains word processor, spreadsheet and presentation software. This tool is compatible with some word prediction software. It also includes features like AutoCorrect that mark incorrectly spelled words. This freeware can be downloaded at <http://www.openoffice.org/>

WordPad

WordPad is the free word processor included with Windows. It is a good word processor for beginners. It has few extra features but it works for ordinary tasks such as letter writing, simple sign making, writing agendas or meeting minutes.

Microsoft Works (not free, but affordable)

Works Suite includes six popular Microsoft home products in one, easy-to-use package. Works Suite includes Works, Word, Money Standard, Encarta Standard, Streets & Trips, and Picture It! Photo Premium. Works Suite provides software for productivity, communication, personal finances, learning and referencing, getting directions and planning trips, and photo editing all in one package. Some new computers offer it free as part of the system purchase so consumers are advised to inquire.

Chapter 3:

Voice-to-Text Support

Voice recognition systems (voice-to-text, speech-to-text or speech recognition programs) allow users to enter text by verbal command rather than by typing. These systems can be used to create, letters, memos, e-mail messages, essays or to browse the Internet, and navigate various applications.

Dragon NaturallySpeaking Preferred Version 8

Main Features

- Recognizes continuous natural speech
- Can command with voice only – hands-free
- Can create customized vocabulary lists

Description:

Dragon NaturallySpeaking is a great tool for those who find it difficult and time consuming to put thoughts onto paper. Naturally Speaking is ideal for students whose oral skills are better than handwritten and keyboarding skills. Professionals and students can benefit from the ability to transcribe from digital recorders and Pocket PC's, allowing dictation on the move. This market leading and easy to use program contains simple training scripts with the ability to "redo" and skip sections of the training for greater accuracy and speed. The accuracy centre may be used to analyse voice documents, as well as perform additional training. Users can surf the web, open and control programs by voice.

Best uses:

Dragon NaturallySpeaking allows individuals to create, edit and revise documents, essays, e-mail and to navigate the web via voice recognition. Dragon NaturallySpeaking is particularly helpful for individuals who are only able to write short and/or simple writing pieces even though they are able to verbalize more complex thoughts. It is also useful for users who cannot get initial sounds or letters correct in order to use word prediction. People who have difficulty using a mouse would also benefit from using Dragon NaturallySpeaking.

-
8. To view more information about this software, visit the ScanSoft website at: <http://www.dragonsys.com/>

Limitations:

Dragon NaturallySpeaking has some limitations in that it requires patience when learning how to use it. Although the time required for training mode has improved, it can be very time consuming to develop a good voice file. Also, during training time a lot of individual time is needed. Recent versions of Dragon make it possible for background noises to be filtered out.

Where To Buy The Software:**Planet Micro**

42 Havenwood Way
London, ON N6H 5B8
Phone: 519-657-4873 or 1-888-89-CDROM (888-892-3766)
E-mail: sales@planetmicro.com
Website: <http://www.planetmicro.com/>

ScanSoft

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

Cost:

Single user \$175.00

7 – 49 users \$110.25

**“Dragon really gives
me a lot of
confidence to write
and it’s not too
hard to use.”**

Carlos

Chapter 4:

Existing Software

Many word processing programs have their own built-in features to help make writing easier. New editing techniques can help to correct writing errors. Features such as; "Cut and paste" and "click and drag" can help the writer move words, sentences and paragraphs around within the text. The proficiency of spell checkers and grammar checkers help users correct work easily. Although spellcheckers can capture misspelled words, they do not catch correctly spelled words that are used improperly, such as homonyms. A grammar check is effective in helping catch these errors.

Microsoft Word 2003

Microsoft Word is a popular word-processing program with many features that can make the process of writing more accessible for many individuals. Some of the features include: customizing toolbars, autotext, autocorrect, spell check, and shortcut keys.

Customizing Toolbars

This feature is important because some individuals are easily overwhelmed by too much information and text appearing on the interface. Toolbars can be customized or created by adding, reorganizing and removing buttons and menus. Students often benefit from creating toolbars with larger and/or fewer buttons or menu items. Toolbars can be removed shown or hidden.

Delete/Add a Toolbar Button

Show the toolbar to change. Buttons may be added or removed in either of two ways.

1. Open the final ▼ on the toolbar that you want to change. Click on the Add or Remove Buttons ▼. Click on (or off) the box next to any of the available button options. Close the menu. The toolbar will reflect the changes.
2. Hold down the ALT key and drag the button off the toolbar.

Toolbars may be customized further by clicking on the Customize option at the bottom of the Add/Remove menu.

AutoText/AutoCorrect

AutoText offers a way to store and quickly insert text, graphics, fields, tables, bookmarks, and other frequently used items. Microsoft Word comes with a number of built-in AutoText entry features that are divided. For example, if writing on a letter, Word can offer letter-specific AutoText entries, such as salutations and closings.

In addition, personalized AutoText/AutoCorrect entries can be created. This feature is useful if using the same large or complex item to avoid reinserting or retyping information or to store text that contains a particular style or format. For example, if a student needs a header with the current date, an AutoText entry can be created that will enter this information as required.

Keyboard Shortcuts

Frequent tasks can be accomplished quickly by using shortcut keys – one or more keys pressed simultaneously to initiate a function. Use the same standard shortcuts for many applications or design your own!

EDITING/FORMATTING:

Ctrl+A: Select All

Ctrl+C: Copy

Ctrl+X: Cut

Ctrl+V: Paste

F7: Spelling & Grammar

Shift F7: Thesaurus

Ctrl+Z: Undo typing

Ctrl+Y: Repeat typing

End: Move cursor to end of line

Ctrl+End: Move cursor to end of document

Home: Move cursor to beginning of line

Ctrl+Home: Move cursor to beginning of document

Ctrl+B: Bold

Ctrl+I: Italicize

Ctrl+U: Underline

Ctrl+E: Centers text

Ctrl+J: Justifies text

Ctrl+L: Left aligns text

Ctrl+R: Right aligns text

Ctrl+M: Increase indent

Ctrl+Shift+M: Decrease Indent

Ctrl+Shift+A: Capitalize highlighted text

Shift+F3: Change capitalization of highlighted text

Ctrl+Shift+F: Highlight font name on tool bar

Ctrl+Shift+P: Highlight font size on toolbar

Ctrl+P: Print

Ctrl+F2: Print Preview

Ctrl+F5: Restore document window

Ctrl+F10: Maximize document window

Ctrl+F6: Display the next open document window

Ctrl+Shift+F6: Display previous open document window

Alt+F4: Quit Word

Ctrl+]: Increase font size

Ctrl+[: Decrease font size

Shift+Alt+Up Arrow: Move paragraph up

Shift+Alt+Down Arrow: Move paragraph down

HIGHLIGHTING TEXT:

F8: Start Highlighting – use arrow key to continue highlighting, or press the key again to highlight a word, sentence, paragraph and entire document

Shift+F8: Undo most recent highlighting

Esc: End highlighting

WINDOWS:

F1: Open Help

WORD PROCESSING:

Ctrl+N: New blank document

Ctrl+O: Open document

Ctrl+W: Close current document

Ctrl+S: Save current document

F12: Save

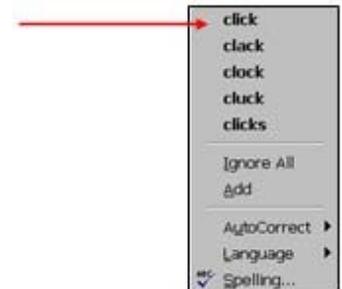
Spell Check

Spell checkers are useful in helping users edit their work. MS Word provides two spell check options. One option notifies the user immediately when a word is misspelled. The other option is used after the user's writing is completed.

Turn on Automatic Spelling

1. On the Tools menu, click Options, and then click the Spelling & Grammar tab.
2. To turn on or off automatic spelling checking, select or clear the Check spelling as you type check box.

- The spelling checker uses wavy red underline to indicate possible spelling errors. It uses wavy green underline to indicate possible grammatical errors.
- To correct an error, right-click a word with a wavy underline. Or press <SHIFT> F10 or right button click.
- A box appears with corrections, and other options to choose from. Select the correct word. Continue to spell check the rest of the underlined words.
- Suggestions may be ignored or words may be added to the spelling dictionary.⁹



9. For more information about the accessibility features of Microsoft Word please visit:
<http://atto.buffalo.edu/registered/Tutorials/msword/index.php>

Corel WordPerfect 12

Corel WordPerfect is an industry-leading word processor with two features that are particularly useful for improving literacy skills. The user can right-click on the word to bring up a list of possible correct spellings from which to choose. The list also can be made visible as a menu item, a feature, which is not available in MS Word. With Grammar check, grammatical errors are underlined in blue (to distinguish them from spelling errors). A description of each error is available by using the "Grammatik" tool to check the document. The descriptions alert users to possible errors in their writing. WordPerfect is an excellent program.

Some of the other features available with WordPerfect include:

Changing Display Settings:

WordPerfect Office 12 application display settings may be changed, in several ways to facilitate readability. In Quattro Pro and Presentations, a Zoom Level dialog box provides easy access to these settings. In WordPerfect, before the page display can be enlarged or reduced the document must be in either Draft or Page View. For convenience, Zoom Level commands may be accessed from the property bar, by using the PerfectExpert or by using keyboard shortcuts.

Customizing Interaction with Applications:

WordPerfect Office 12 offers users the opportunity of customizing practically every aspect of the application, from keyboards, keystrokes, and keyboard shortcuts to toolbars, commands, and menus.

Default Keyboard Shortcuts:

Default shortcut keys may be used for File, Edit, View, Insert, Format, Table, Tools, and Help menu commands as well as for the property bar, navigation, and other commands.

Custom Keyboards:

Users can create and edit a custom keyboard by assigning features, keystrokes, applications, and macros to keys on the keyboard. Many WordPerfect operations can be executed using keyboard shortcut commands.

Custom Toolbars:

WordPerfect Office 12 lets users choose which toolbars are displayed on screen. Floating or docked toolbars may be chosen. In addition, custom toolbars can be created to provide quick access to frequently used features, keystrokes, commands, and macros.

Working with text

QuickWords: QuickWords are customizable abbreviations of words or strings of text that automatically expand for insertion into a document. For example, cc may represent "Corel Corporation." When typing cc or CC, "Corel Corporation" appears in the document. Graphics can also be added to the QuickWords list.

QuickCorrect: QuickCorrect automatically corrects common typing errors. For example, QuickCorrect will automatically replace "adn" with "and." QuickCorrect also provides a list of commonly misspelled words and their correct spellings.

Spell-As-You-Go: This feature automatically checks the spelling in a document and underlines misspelled words in red.

Grammar As-You-Go: This feature automatically checks the grammar in a document and underlines grammatical errors in blue.

Prompt As-You-Go: The Prompt As-You-Go list box displays suggestions for misspelled words, grammatical errors, and synonyms as text is typed. Prompt As-You-Go uses a color-coding system of red for misspelled words, blue for grammatical errors, and black to present synonyms. If the box is blank, there are no suggestions for the word.

Speech Recognition: WordPerfect Office 12 supports Dragon NaturallySpeaking, a speech recognition application that lets you dictate text, apply formatting, and execute WordPerfect Office 12. WordPerfect also supports screen readers, such as JAWS (adaptive software for the Blind) for Windows, that provide text-to-speech capability.

Add Sound to Slide Shows: Presentations 12 includes support for sound enabling the additions of entire CD tracks, or certain sections of a CD track to slide shows. Presentations 12 supports the Wave (WAV) and Midi (MID) sound file formats. Properties, of any sound file, such as volume, can be adjusted.

Add Sound to WordPerfect Documents: A sound clip can be linked or embedded in a WordPerfect document. With a properly installed sound card, a sound clip may be used in a document. Digital WAV and MIDI (MID and RMI) sound files can be added to WordPerfect documents.

Setting Sound Notifications: WordPerfect Office 12 can provide sound prompts if a word needs hyphenation, or when an error is detected in a document. Customizing the display of Help topics in WordPerfect allows the user to optimize many on-screen display features, including online Help. The font size of the text that displays in a Help window and the colour of hyperlinks can be changed. System colours may be applied so that the background color and text in the Help window match the system colours.

Additional Help

Below are some additional ways in which WordPerfect Office 12 provides assistance.

Fully Searchable Help: Information about features and procedures can be retrieved quickly through the online Help. Since it displays in a separate window, Help can be kept visible or minimized while using the application. The online Help feature can be browsed using the table of contents, index, or full-text search option. For quick reference, individual Help topics can be printed.

Printed Documentation: WordPerfect Office 12 Standard includes a printed user guide that explains the application's features, provides conceptual information, and includes step-by-step instructions and tips for use.

PDF User Guide: The user guide is also available in PDF.

ASCII Text Version of Online Help: The ASCII text version of the online Help makes it easy for assistive technologies, such as text-to-speech readers to interpret the information.

Step-by-Step Tutorials: CorelTUTOR provides an introduction to the tools and features of WordPerfect Office 12.¹⁰

10. For more information about the accessibility features of Corel WordPerfect please visit:
http://www.corel.com/content/pdf/wp12/Accessibility_and_WordPerfectOffice12.pdf

Microsoft PowerPoint 2003

Microsoft PowerPoint is an excellent program for individuals with learning difficulties. PowerPoint offers the ability to create mouse-operated talking books using one's own writing and photographs, material from the Internet or text and pictures scanned from print. These 'talking books' can be tailor-made to the interests and requirement of the user. Text can be symbol-supported, and sounds and speech can be included to enable access for those with reading difficulties.

Electronic books can be of great benefit to individuals who have difficulty reading independently or for people with poor motor control. Talking books alleviate the difficulty of turning pages and allow readers to skip ahead or turn back to re-read a page. They make reading an independent exercise for people who would normally be dependant on someone to hold their books. Readers can revisit specific pages or re-read the whole book as often as needed.

PowerPoint is also an excellent tool for assisting individuals with learning disabilities to organize their ideas and create formats to aid memory. Pages or slides can be colour coded. Images, logos and highlighting can be used to help with memory or assist with organizing writing ideas.¹¹ Adults with basic keyboarding and computer skills can quickly set up their own project using Power Point. It can be colourful, visual and highly rewarding.

For a very detailed 34 page manual on how to make construct electronic books using Microsoft PowerPoint, please refer to the following website: <http://atto.buffalo.edu/registered/Tutorials/talkingBooks/tbookppoint.pdf>



(An example of a PowerPoint slide)

11. For more information about PowerPoint please visit:
<http://atto.buffalo.edu/registered/Tutorials/talkingBooks/tbookppoint.pdf>

Assistive Devices & Additional Information

Enlarged Keyboards

Keyboard stickers with enlarged letters and numbers can be purchased through the Canadian National Institute for the Blind. These stickers make it easier for people with low vision to find keys more quickly.

Trackballs

Trackballs can be used as an alternative to a standard computer mouse. Many individuals find it easier to use a trackball to control a cursor than to use a mouse on a mousepad. Trackball mice can be purchased anywhere standard computer mice are available.



SmartCat TouchPad

Cirque Smart Cat TouchPad is an alternative mouse device that can be used by people with limited gross or fine motor control in place of the standard computer mouse. SmartCat gives users one-touch zooming and increased vertical and horizontal scrolling flexibility. It can also be customized to work buttons that are preset by the user.



To purchase: <http://www.cirque.com/>
Price: \$59.95 U.S.

ZoomText

ZoomText enlarges and enhances everything on the screen, making all applications easy to see and use. ZoomText Magnifier delivers the best in screen magnification, clear images, smooth navigation, ease of use and the highest level of compatibility.

ZoomText Magnifier also features All Colour Smoothing, for clear and sharp text at all magnification levels. Pointer and Cursor Enhancements make it easy to find the mouse pointer and text cursor. Innovative Colour Filtering allows individuals to change screen colours for improved clarity and reduced eyestrain.¹²

To purchase: <http://www.aisquared.com/index.cfm>

Price: \$395.00 U.S.



Electronic Text (E-Text)

Many novels and other documents in the public domain are saved in a plain text format that can be opened on any computer: (no formatting, no html markup). These E-text files can be downloaded and/or purchased. They can be accessed or opened using any number of text-to-speech featured software programs. People can access whole libraries through E-Text and use software to have it read aloud or read along with it on screen.

Some Websites with E-Text Documents

- [E-Text LD Resources website](#)
- [Project Gutenberg Official Site](#)
- [E-Text Links](#)
- [E-Texts and Publishing \(Library of Congress\)](#)
- [Alex Catalogue of Electronic Texts](#)
- [CARRIE: An Electronic Library](#)
- [Encyclopedia.com](#)
- [The OnLine Books Page](#)
- [BIBLIOMANIA, The Network Library](#)
- [The Internet Public Library](#)
- [Online Literature Classics](#)
- [Shakespeare](#)

12. For more information about ZoomText please visit: <http://www.aisquared.com/index.cfm>

Scanners

Scanners compatible with Kurzweil 3000:

Note: Models of scanners and their availability change frequently. This listing should be used as a guide only.

- Epson Perfection 1200S (SCSI connection)
- Epson Perfection 1200U (USB connection)
- Epson Perfection 1240U (USB connection)
- Epson Perfection 1250U (USB connection)
- Epson Perfection 1640U (USB connection)
- Epson Perfection 1650U (USB connection)
- Hewlett Packard 5200 (USB and parallel connections)
- Hewlett Packard 6200 (USB and SCSI connections)
- Hewlett Packard 6300 (USB and SCSI connections)
- Hewlett Packard 6350C (USB and SCSI connections)

Scanners, which have been tested with Read & Write Gold:

- Epson 1200
- Epson 610
- H.P. 6200
- H.P. 6300¹³

13. For more information about scanners please visit: www.kurzweiledu.com

Helpful Websites

Here are some other websites to get more information on Adaptive Technology:

Action Read Community Literacy Centre

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

The Action Read website offers information about a National Literacy Secretariat funded research project where Adaptive Technology was actually used in a literacy program to support Literacy and Basic Skills students. This website also features software that supports reading and writing and provides recommendations for literacy practitioners in purchasing Adaptive Technology software.

Adaptive Technology Resource Centre

<http://www.utoronto.ca/atrc/>

The Adaptive Technology Resource Centre website provides a wealth of information on the subject of Adaptive Technology. It has an extensive collection of research papers and a number of tutorials to aid in the installation and use of various common adaptive software packages.

Adaptech

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

This website through the Adaptech Research Network at McGill University offers research on the use of computer, information and Adaptive Technologies by Canadian college and university students with disabilities. This site has an excellent compilation of free and/or inexpensive hardware and software alternatives.

Adaptive Technology Sources

<http://www.provincial-cec.on.ca/Resources/Webresources/ATWR.htm>

This web page offers a listing of great Adaptive Technology resources.

Closing the Gap

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

The Closing The Gap Resource website offers information to assist individuals and professionals in the selection of computer-related products and services for children and adults with special needs. It is considered by many to be a major resource in the field of Assistive Technology. Discussion forums offer excellent information.

LDOonline

http://www.ldonline.org/ld_indepth/technology/technology.html

This site provides a comprehensive, up-to-the-minute listing of hardware and software products for people with learning disabilities, what it does and where to get it.

Learning Disabilities Association of Canada

<http://www.ldac-taac.ca/InDepth/inDepth-e.asp>

This site includes a really great section on adult issues and specifically related to adaptive technology.

NALD

<http://www.nald.ca/>

The National Adult Literacy Database is an up-to-date and easily accessible database of adult literacy programs, resources, services and activities across Canada. There is a forum available on the use of technology for adult literacy instruction.

Special Needs Opportunity Window (SNOW)

<http://snow.utoronto.ca/>

The Special Needs Opportunity Windows or SNOW Project through the University of Toronto provides online resources and professional development opportunities for educators and parents of students with special needs. There is a comprehensive listing with product descriptions, frequently asked questions and tutorials for adaptive technology software and assistive devices.

SET_BC Learning Centre

www.setbc.org

A great website featuring courses, case studies, tutorials and ready-mades. The video tutorials are an excellent resource for demonstrating how the software works with students.

The Georgia Assistive Technology Project

<http://www.gatfl.org/ldguide/default.htm>

The Georgia Assistive Technology Project is website which provides a resource base for service providers, teachers, parents and consumers about assistive technology. The web site offers assistive technology evaluation, and information on specific difficulties (i.e. reading, writing, memory organization and math).

Learning Accommodation Case Studies

In order to effectively recommend adaptive technology software to individuals with reading and writing challenges it is essential to understand the nature and complexity of the learning difficulty. Here are four case studies to illustrate how to assess learning difficulties and match them to adaptive technology to accommodate for specific learning needs.

Raveen

Raveen is a 42 year old man with a learning disability. He has difficulty with decoding and reading comprehension. He also has difficulty transferring learned information in new situations. Raveen is most challenged when he is faced with a lot of print material and seems to be easily overwhelmed.

Raveen could not visually distinguish the difference between “p” and “q”, He would lose his place frequently and had difficulty with sound/ symbol relationships. In this case, Raveen could understand text read aloud when he was not under pressure.

Raveen’s Learning Accommodation

An individual, like Raveen who is able to understand text read aloud can use screen readers or text to speech software to read text. (A person who can’t process aural information may benefit from tools that present information in a more graphic manner such as Inspiration and others.)

Raveen was introduced to Kurzweil 3000 as an accommodation for his reading difficulties. Kurzweil quickly became a well-used tool for large volumes of text that Raveen wanted to read. He would go online to access electronic text documents to read and brought in magazines and books to scan in for future reading. Raveen really benefited from Kurzweil 3000, because it uses a multi-sensory approach by providing information both visually and aurally. Raveen was able to highlight and save difficult text, so that he could read it over several times before moving on. Over time Raveen’s reading comprehension improved along with his spelling and grammar skills.

Tracy

Tracy is a 26 year old woman with a developmental disability. She lives with her parents and attends a local literacy program two times a week. Tracy is interested in writing about her life, but finds it daunting to put pen to paper. Tracy struggles with the proper use of grammar and syntax, punctuation, spelling, organizational skills, and initiating writing. She is easily overwhelmed by the task of writing.

Some of Tracy’s misspellings not only come from lack of knowledge of the word but she often replaces one letter for another such as a “b” for a “d”. Individuals like Tracy who have to work extremely hard to put words down on paper often lose comprehension, fluency, and their ideas when writing.

Tracy's Learning Accommodation

Tracy was introduced to the word prediction program, Word Q. This program has really helped improve her writing because Word Q not only spell checks words, but a smaller user vocabulary reflects her personal writing style and adapts as she writes. Tracy can also use Word Q to listen to what she has written after she has completed her work for purposes of editing. She is able to pick up an awkward sentence or mistake with the read back function that she may not have picked up when re-reading her writing.

Jake

Jake was never successful in school. He repeated the third grade and dropped out of school in grade eight. Jake has difficulty with reading and has limited writing skills. He relies on his wife to complete job applications for him and to handle all household budget matters. The most successful job Jake has ever had is driving a truck for a local trucking company. He has had difficulty with this job too because of his lack of writing skills and all the forms and timesheets he is required to fill out.

Jake's handwriting and spelling are at a very basic level. These limited handwriting skills have an impact on his weekly log reporting for his job. Jake relies on his oral language skills and excellent memory. He asks for directions along the way as he has difficulty reading maps. He has developed many creative strategies to get assistance in reading maps and other information along the way and when possible, gets his co-workers or wife to help him fill out forms.

Jake's Learning Accommodation

Jake was introduced to textHELP Read and Write Gold as a one-stop solution for reading and writing. Jake is now able to scan some of his work memos and have the text read to him. He plans to buy a laptop computer so that he can use this software when he is on the road. Read & Write's word prediction feature has also helped to eliminate handwriting problems and make proofreading easier because the text is legible. Jake experiences less frustration and anxiety towards expressive writing. He also uses a more extensive vocabulary when he writes, because he no longer fears making spelling mistakes.

Lakhani

Lakhani moved to Canada from East Africa in 2003. She works for real estate agent as a receptionist and has been promoted to an administrative assistant position. She has a visual impairment and cannot see text that is under a font size of 20 point. Lakhani needs to use a computer in her new position and will need to have some training support to use it efficiently. Lakhani's low vision problems make it difficult for her to navigate a cluttered interface. She finds it hard to distinguish tiny icons and text.

Lakhani's Learning Accommodation

Lakhani was introduced to ZoomText Xtra Level 2. Initially the settings in the operating system were changed to enlarge text which helped Lakhani be able to distinguish one icon from another and actually read text. With the option to change the contrast of the screen, Lakhani was able to find the setting that suited her vision best. (Some individuals with low vision prefer having black backgrounds with white or yellow text, while others need to have a white or yellow background with black text.) Lakhani is now able to use the computer with ease in her new position.