Gerry Kennedy IT Consultancy
ABN: 20 850 457 606

Training & Consultancy in Education & Assistive Technologies

P.O. Box 5073. Laburnum. Vic. 3130
email: specmelb@bigpond.net.au
Ph: 61 3 9894 4826   Fax: 61 3 9894 4936
Mobile: 0411 569 840

MS Word Add-Ins to Engage and Support All Students

Microsoft Word 2003, 2007 and the current version 2010, has many features that cater to students who require additional learning supports. Some features are in the toolbars or ribbons, but are often not apparent or their use or relevance not evident. Others can be accessed via a mouse or preferred pointing device whilst others can be invoked using a variety of keyboard shortcuts. These can be introduced and taught to students who have different learning styles. Remembering where the functions are or mastering the combinations of keyboard shortcuts can often present difficulties and challenges for both teaching staff and students.

Using colour to differentiate background and foreground, page magnification, line and word spacing, ready-made templates, and highlighting tools guarantees that this powerful word processing software can be used more efficiently and enable users to be more productive and competent in dealing with text. Students of all abilities and ages can become more confident in completing school tasks and master skills to meet their specific needs, over time. Most schools use this program but many students are still disadvantaged as it has so many different features but most are not used well, if at all.

A number of add-ins exists for MS Word. These handy add-ins provide increased functionality over and above the inbuilt features and tools. Simple yet powerful tools provide additional supports – at no cost to the student or school. They may introduce features not readily available within MS Word or provide easier access to MS Word - visually, physically and/or cognitively. They may be useful in supporting students or users who have:

- Learning disabilities
- Dyslexia
- Learning Difficulties
- A print handicap
- Issues with English as they are recent arrivals and English is their second language
- Intellectual disabilities
- Reading, spelling writing or planning/organisational difficulties

WordTalk V4.2

This is a freely available program (http://www.WordTalk.org.uk/). It was created and designed by *Call Scotland* at the University of Edinburgh. WordTalk was designed and developed for use with all versions of Microsoft Word ('97, 2000, XP, 2003, 2007 and 2010). Microsoft Word, as a preferred or required word processor, can therefore be used more effectively in the classroom and at home by all students in a more empowering and equitable manner.
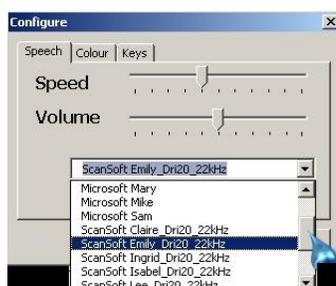
WordTalk assists all users - most particularly younger users and those struggling with text creation or reading. WordTalk was specifically designed for people with spelling, reading and writing difficulties, and also caters to students and adults with a print handicap. Text typed by the user, or acquired by copying and pasting from 'third party text' sources, including PDF files, emails or web sites, can be more readily accessed with voices stored on the user's computer. These male or female voices 'speak' the text, at a fast or slow speed. The highlighted or selected text can be voiced from the cursor position or by word, sentence or paragraph. The voiced output can be stopped at any time.

By hearing the text read back to them, students are more likely to engage and are able to listen to new, important, foreign or key words. They can listen for meaning, so as to increase comprehension, to identify overly short/long sentences, to ascertain correct or missing punctuation or to appraise their own work. The selected sentences or passages can be voiced once or many times.

The software will speak the text of the document and will highlight words as it goes. Each word is coloured when spoken, with a choice of colours made available from a 'configuration' dialogue box. This tracking feature helps the student maintain visual contact with the voiced text. It can be appropriately paced so that text position and placement is apparent.

It contains a talking dictionary to help decide which word spelling is most appropriate. The spell checker can be programmed to work when a word is right-clicked with the mouse within MS Word or invoked when chosen from its menu. Each word in the list that the software considers suitable can be voiced, one at a time. A synonym check is also available where extra meanings are provided. These can also be voiced as well, if required.
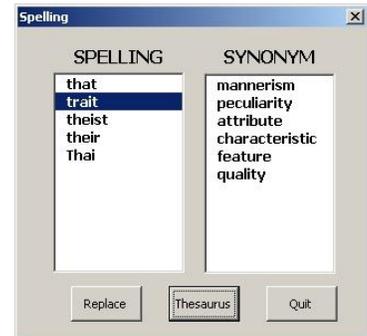
The WordTalk add-in sits neatly in the toolbar. It appears as a toolbar in MS Word 2003 and as an Add-In in 2007/2010. WordTalk is configurable, allowing the user to adjust the highlight colours, change the voice and the speed of the speech. It uses the Microsoft voices and TTS voice engine. It will also locate and use other compatible voice engines (e.g. SAPI 5 voices) if additional software or voices are installed on a user's computer.

A more recent function is that of saving text to a sound file (i.e. text to audio). Selected passages of text can be converted to either a *.wav* or *.mp3* file. Educators and students can create resources that can be listened to on or away from the computer. Students enjoy creating podcasts and then transferring them to more portable devices such as MP3 players, Smart Phones and other MP3 capable devices. They can study material, listen to their own creative work or poetry or access talking books, projects, class based material or project work. Some students with visual or perceptual difficulties will enjoy the added benefit or listening to text.

Teachers can then encourage reluctant writers to publish their work online in Wikis, Nings or Blogs – in both text and sound file format. The potential audience can be limited to other students, peers, parents and school community – or to the world! MP3 is a compressed file format that is readily accessible from a growing number of electronic devices and players. Students can listen to text as they read along with the printed hard copy anywhere, at any time. Or they can listen to talking books or essays.

*For additional support and FAQs for WordTalk, link to http://www.WordTalk.co.uk/FAQs/ .*

Note: Specialised programs have existed to do this for a long time (e.g. *Texthelp Read & Write*, *ClaroRead*) that provide even more functionality and features, with greater control and installed with a selection of high human-quality voices. In many cases these commercial programs that appear on screen as floating toolbars work seamlessly with *MS Word* are extremely helpful and highly appropriate and should be seriously considered for students at risk, perhaps in consultation with professional advice, where necessary. For more information about text-to-speech and voices (TTS) refer to the these articles on *Universal Access Using Text to Speech; Universal Access to Text - Literacy Support for* ESL) as well as *Universal Access using Text-to-Audio & Sound Editing Programs.* They are all available from *http://ndco.cds.org.au/index.php/at/60-gerry-kennedy-at-articles.*

FX Toolbar (MS Word 2007 only)

The FX Toolbar can be downloaded from http://www.fxc.btinternet.co.uk/assistive.htm and then installed. It appears in MS Word 2007 as a new ribbon option. It also provides text-to-speech functionality similar to that of WordTalk. It is not as configurable nor as expansive with TTS options. As an adjunct to WordTalk, it is excellent.
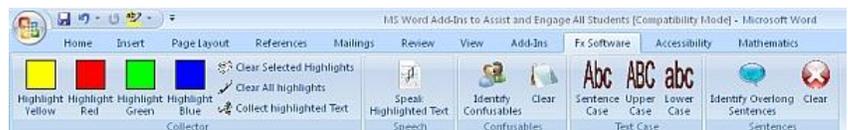
Often students will type using all capital letters by mistake or miss capitalising letters at the start of sentences. Reluctant and struggling writers, or students with conditions where 'perfection' is paramount, will erase or delete a sentence or even an entire paragraph. By simply clicking on *sentence case*, *upper case* or *lower case* options, the selected text will instantly conform to these

parameters. It is obvious, quick and easy. Of course, any selected text can be toggled between the three by using *Shift-F3* keys as well. It is just that some students will forget this keyboard shortcut!

Fx Toolbar will also identify overly long sentences in a document. It also has the capacity to identify confusable words (i.e. homophones). These are words that sound the same (e.g. *where*, *wear* or *we're*) but have different meanings and usage. They are not spelling errors and spell checkers will not identify them as being incorrectly used. There are over 18,500 homophones in the English language so that students need to know that they exist and can be easily misused in incorrect contexts.

The capacity for FX Toolbar to collect text using from one up to four colours is one of its major advantages. Students who struggle with working with long or complex documents will enjoy being able to select passages of text, then listen to it to gain meaning or appropriateness then highlight the required text in one of four colours. Once they have selected one or more passages, they need only to click on *Collect highlighted text* and a new MS Word document will be created - with all selected text appearing in a new window. It is quick, easy and intuitive.

This will most certainly appeal to any student working with research articles, text copied from scanned or printed documents, encyclopaedias, web sites or reference articles in HTML, PDF or other formats. They can select sentences or phrases that answer a question or relate to a topic and then elegantly gather them for reading, comprehension or editing or in a more amendable format. It helps to locate and simplify content. Educators can also create worksheets, assignments and topic starters.

Of course, this could be used for plagiarism. Educators need to impress upon students to cite and reference content and to always indicate where content has been acquired or sourced. It is a process and a critical area that schools need to identify and then promote and share leading practise with students before they progress to further learning and workplace opportunities.

Struggling readers or those with visual perceptual difficulties, Scotopic Sensitivity or Meares/Irlens Syndrome will find working with complex text, especially 'busy' text with graphs, photos and drawings, will enjoy have simplified documents that allow them to concentrate on more salient or relevant data or information. The same software developer also provides additional supports for visual dyslexia including *T-Bar*, *RapidSet* and *SS Overlay* as full-window or part/full screen tinting options.

DAISY Translator

This free add-in for MS Word is available at http://www.daisy.org/project/save-as-daisy-microsoft-word-add-in. Microsoft Word Add-in Version 2.5 is a beta version that will add a new ribbon in Word 2007 and Word 2010. This beta copy was released in March 2011.

The "Save as DAISY" add-in for MS Word incorporates a *Lite* version of the DAISY Pipeline. Users can select to generate the DAISY XML for further processing, or they can generate a fully conforming DAISY file set with full navigation and full text synchronized with audio. The audio is generated by the default text-to-speech engine on a user's MS Windows computer.

DAISY is a digital talking book (DTB) format, popular with blind and vision impaired users. It is presented with enabled navigation within a sequential and hierarchical structure consisting of (marked-up) text synchronised. There are DAISY reading devices as well as software to read or voice text to users who require auditory support. DAISY assists people who for different reasons have inabilities, problems or difficulties using regular printed media.

As an emerging format, it is being used more frequently in secondary and tertiary settings to support a range of students who have different learning styles and needs, are in ESL, and especially those who are print handicapped or who struggle with printed text on paper or on screen. Refer to http://www.spectronicsinoz.com/article/universal-access-using-daisy-reader-software for more detailed information as to the history, impact and usability of DAISY resources. Digital formats are being supported by agencies such as vision Australia. Read how they are creating more digital resources at http://www.visionaustralia.org.au/info.aspx?page=680 .

Note: Before users or schools install this DAISY add-in, be sure to close all MS Office applications and uninstall any previous beta versions. After installation, it appears in MS Word 2007 as Accessibility in the ribbon.

Fun4Word V2.6

This can be located and downloaded from
http://fun4word.altervista.org/. It offers almost 70 effects with
text within an MS Word document. It appeals to younger
students and is ideal with struggling or disengaged students
as they can experiment and literally play with text.

Written in Italian by Andrea Incani, it caters directly to Italian
LOTE teachers as well as to students from primary to
secondary. The effects are described and acted upon in
Italian and in English in the menu. It sits within the Add-Ins
ribbon in MS Word 2007 and 2010.

It allows students to instantly apply amusing and funny
formatting to parts of a selected text, or to a whole document. The document should be saved before attempting to use any of
these effects (or use *CTRL-Z* as undo)! Fun4Word can write mirror words or whole sentences, mix up the words of a sentence,
remove all the vowels from the text, colour every letter or word in a document in a different colour, change straight lines of text to a
wave shape, encrypt the text, change it to Braille or even Morse!
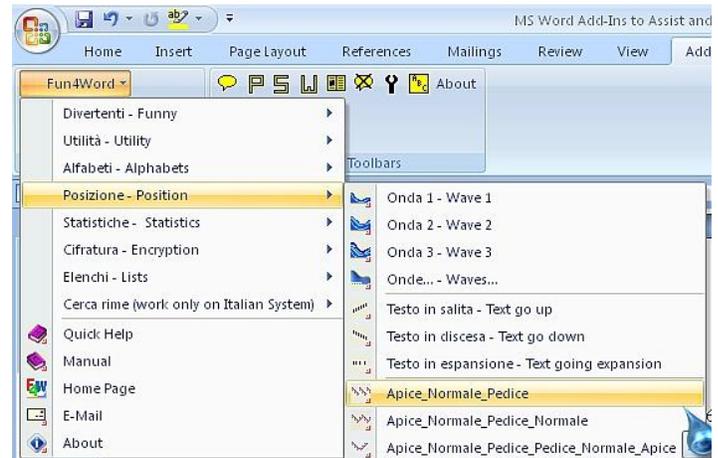
Microsoft Mathematics Add-In

Microsoft Mathematics is a set of tools that educators and students
can use to perform mathematical operations on expressions or
equations in MS Word documents and OneNote notebooks. Users can
access the extensive collection of mathematical symbols and
structures to display clearly formatted mathematical expressions within a Word document without external software. Users can
also quickly insert commonly used expressions and math structures by using the Equation gallery.
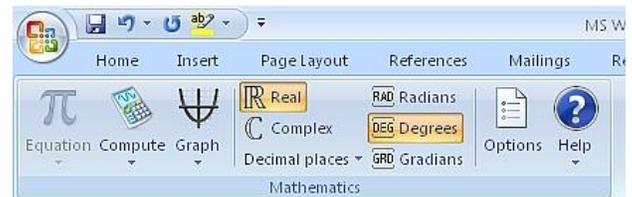
Microsoft Mathematics can be used to perform the following tasks:

- Compute standard mathematical functions, such as roots and logarithms
- Compute trigonometric functions, such as sine and cosine
- Find derivatives and integrals, limits, and sums and products of series
- Perform matrix operations, such as inverses, addition, and multiplication
- Perform operations on complex numbers
- Plot 2D graphs in Cartesian and polar coordinates and 3D graphs in Cartesian, cylindrical, and spherical coordinates
- Solve equations and inequalities
- Calculate statistical functions, such as mode and variance, on lists of numbers
- Factor polynomials or integers
- Simplify or expand algebraic expressions

There is an inbuilt Help file and an Options menu. It appears in the ribbon as a new
option, *Mathematics*.

Insert Grid 911

This maths tool inserts a Cartesian grid into an MS Word document. It can be freely
downloaded from www.math911.com. It appears in MS Word 2007 in the Add-Ins ribbon. By simply clicking on Insert Grid, a
dialogue box appears where educators and students can enter their data in order to create a grid that is inserted at the cursor.
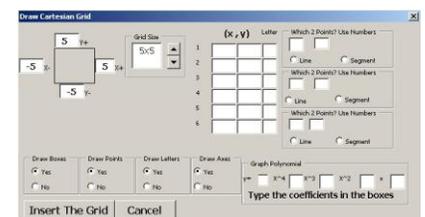
Microsoft Learning Essentials V2.0

This is a free 160MB resource available from Microsoft that works within an MS Office Suite and can be downloaded from http://www.microsoft.com/downloads/en/details.aspx?familyid=e5f4f9c7-1a6a-484b-99fd-c231442deaa4

'With Learning Essentials, educators and students can get started stay organised, and successfully complete high-quality work. Educators can create effective instructional resources, complete administrative tasks, and implement new teaching strategies. Using the *Content Development Kit*, educators can create additional templates and tutorials that integrate with familiar Microsoft Office applications. Students can use templates with project assistance to coach them through a variety of assignments.

The English, French, German, Italian, Norwegian, and Spanish versions of Learning Essentials also support SCORM standards. *SCORM Tools* seamlessly convert Microsoft Office documents into standards-based e-learning content that can be managed and re-used by any SCORM-conformant learning management system. Learning Essentials is a free download for schools that license Microsoft Office.'

Once unzipped (to about 170MB) and installed, two new items appear in the Add-Ins ribbon. There are reporting tools, maths and science tools, and maths symbols, with French, Spanish and German language tools for students.

There are similar tools for educators and teaching/training staff with exam and test tools as well. It is a comprehensive and excellent resource.

Accessible Formatting WordBar

This free formatting WordBar for MS Word is yet another wonderful resource from the NE Scotland site at http://www.rsc-ne-scotland.ac.uk/eduapps/wordbar.php. This template can be downloaded and used within MS Word as a way to promote best practice when working with students with dyslexia or learning disabilities.

'The *Accessible Formatting WordBar* uses the basic JISC TechDis principles of creating heading styles, adding descriptions to images, using line spacing, left aligning text, using page breaks as separators, the use of captions, inserting a table of contents and other important aspects which play an important part in creating accessible Word documents. It can be used with Microsoft Word 2003, 2007 and 2010. In Microsoft Word 2003 the Accessible Formatting WordBar appears as a floating toolbar although it is possible to dock the WordBar onto the main MS Word toolbar. It is also possible to re-purpose existing non-accessible Word documents into accessible documents by adding headings, page numbers, descriptive text to images etc, by using the Accessible Formatting WordBar.'
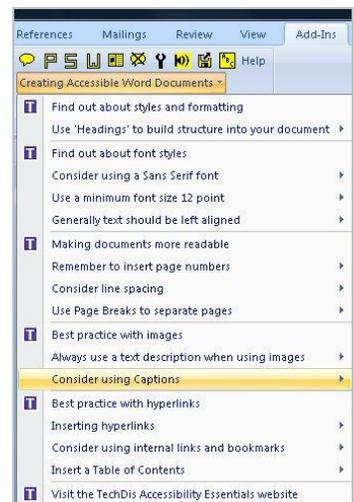
The *Accessible Formatting WordBar* can be used alongside the *DAISY* Add-In for MS Word (mentioned above). The DAISY Add-In features a document validation tool, ensuring your documents meet the DAISY standard so they can be converted to digital talking books. This is a free, intuitive and easy way to support learners with print disabilities. When educators and parents have converted the necessary or required Word documents to digital talking books, students can use the AMIS digital talking book reader to playback their talking books - http://www.daisy.org/amis?q=project/amis .

These are some of the very useful MS Word Add-Ins that I present to educators all over Australia. Many do not know they exist, let alone have them installed on computers at their schools or places of learning. Why don't we see or hear about them? How can we change school culture to identify, evaluate and incorporate these and other Assistive/Inclusive Technologies? It is no use just purchasing and installing more and more new computers – we need proactive teachers and aides using software more often and effectively in teaching and learning. Strategies, skills and understandings then follow to support all of our students - equally.

Other Useful Tools That Work Alongside MS Word

WordWeb V6.5

WordWeb is a one-click English thesaurus and dictionary for MS Windows that can look up words in almost any program - http://wordweb.info/free/. It works off-line, but can also look up words in web references such as the *Wikipedia* encyclopedia. Features of the free version include definitions and synonyms; proper nouns; related words; pronunciations; 150,000 root words; 120,000 synonym sets; global word definition and support and simple text-to-speech for each word being searched.

TheSage V4.01

TheSage's English Dictionary and Thesaurus - http://www.sequencepublishing.com/thesage.html - is a comprehensive and easy-to-use language reference system. It is a very practical and useful software package that integrates a complete dictionary and multifaceted thesaurus of the English language into a single and powerful program that can be installed on a computer or run as a portable App. TheSage can look up words directly from almost any program (*Internet Explorer*, *MS Word*, *Firefox*, *Outlook* etc). Its dictionary is also now online where only the definition database is consulted.

Effective Use of Tables

Often students confronted with a writing project or assignment fail to initiate or begin due to a number of reasons. It could be nervousness, lack of confidence, continued failure, reluctance or lack of planning and execution skills. By using a simple table in MS Word, the task can be made more achievable.

Use the *Tables* menu and select *Insert*. Choose 2 or 3 rows and/or columns. The table then only contains 4, 6 or 8 cells. Students can then break down a writing, data collection or research task by entering a word phrase or sentence, one by one, into each cell. By expanding upon ideas, one at a time, the task is simplified and steps segmented. Graphics, sound or even video can be added into one or more cells. They can embellish content and edit more easily as the content is more apparent and easily manipulated. Cells could also be numbered for re-ordering for some tasks.

Students can add, edit and delete rows or columns as required. It is BEST to carefully plan beforehand and choose the required number of cells before they start adding content! Once the whole task is completed, the contents can then be cut and pasted into a new Word document (or PowerPoint presentation) for completion and submission for assessment or appraisal.

Some Practical Tips When Using MS Word

In training sessions I often find that people have difficulty selecting or highlighting text. A few simple yet practical tips to incorporate in a user's repertoire of skills can increase productivity and avoid frustration and error. To quickly select or highlight text using a mouse or other preferred pointing device, practise and use these strategies.

- First set the Page View Option to *Print Layout*. To select:

  - One word   Double click directly on the word with the mouse
  - One line of text   Left-click once in the left hand margin directly next to that line of text
  - One paragraph   Double left-click in the margin to the left of the corresponding text
  - Entire document   Triple left-click anywhere in the left hand margin

To quickly resize an MS Word window and maximise it to fill the entire screen, simply double left-click on the title bar (the top most area of a window). It acts as a switch to maximise full screen and then to resize and reposition the window back to its previous size and screen location. It helps users who have difficulty seeing, accessing and clicking inside the right-hand side 'maximise' button.

Note: This action works with any window in any application or in the operating system on an MS Windows based computer.

To quickly change the screen magnification of a window, hold and maintain pressure on the *CTRL* key and move the mouse scroll wheel forwards (to increase) and backwards (to decrease) page size. In this way, users can work with text that is easier to see/read when the page is increased. By decreasing page magnification, large documents are faster to edit. Locating pages for research purposes, identifying content or page numbers, for an overall print preview or for layout and design appraisal as well as faster navigation is more easily and efficiently accomplished.

Note: In Word 2007/2010, a zoom feature is also available at the bottom left hand corner of the window. The Control-Roll strategy can also be used in Internet Explorer and Mozilla Firefox browsers to quickly increase page/font size.

In addition, keyboard shortcuts are available in nearly all *MS Windows* programs. Many are worth learning and using in class as they can be more efficient and faster than using a pointing device. The most used seem to be **Ctrl-Z** (Undo/Redo); **Ctrl-X** (cut); **Ctrl-C** (copy); **Ctrl-V** (paste); **Ctrl-A** (select all); **Ctrl-B** (bold face); **Ctrl-I** (italicise); **Ctrl-P** (print); **Ctrl-S** (save a document); **Ctrl-F** (find/replace text); **Ctrl-G** (go to a page, line, section or bookmark); **Ctrl-N** (start a new document); **Ctrl-O** (open an existing document). Switching between open windows is achieved by pressing **Alt-TAB** keys.

Hold the **Alt** key and tap the **TAB** key until the icon of the desired window appears, then release both keys. The *Windows* key together with other keys is also extremely useful (e.g. *Windows-E* brings up all drives on a computer).

A wonderful online resource that lists almost all applications used on an MS Windows based computer or notebook is: http://shortcutguide.com/ or try the *Microsoft Help and Support* page at http://support.microsoft.com/kb/126449.

Also remember to use the online templates that are available from Microsoft. Another really useful site is that of http://office.microsoft.com/en-us/images/?lc=en-us . It contains thousands of clip art images, illustrations, photos, animated gifs and sounds. These can all be used to great effect in MS Office applications including Word, PowerPoint, Excel spreadsheets, OneNote and Publisher. Other plug-ins are available including Fotolia - http://www.fotolia.com/msribbon - high resolution photos and video, *iStockPhoto* add-in and the *Veer* add-in.

Providing More Sustainable Solutions

Over and above these handy add-in programs are well regarded and research-based literacy support programs. They provide expansive supports with many powerful features. These include such general all-purpose literacy support programs such as: *TextHELP Read & Write V10*; *ClaroRead*; *Medialexie*; *Wynn* and *Kurzweil 3000*.

These applications include empowering and enabling features and functions such as text-to-speech, text-to-audio, screen reading, word prediction, voiced calculators, homophone support, Optical Character Recognition capabilities (OCR), research and study tools that are all based on powerful phonetic spelling, dictionary and thesaurus supports. Most have Australian voices (i.e. Karen and Lee). A previous article published in August 2008 is available at http://ndco.cds.org.au/index.php/at/60-gerry-kennedy-at-articles entitled *MS Word - Working Smarter with Struggling Students*. Another article concentrates on word processing and note taking programs with alternate office suites - http://www.spectronicsinoz.com/article/universal-access-using-word-processors/print.

Some useful online Blogs concerning issues with education and Inclusive and Assistive Technologies can be located at: http://www.accessedtech.blogspot.com/; another at http://www.specialeducationadvisor.com/what-is-assistive-technology-and-how-can-it-help-your-child/ as well as the Teaching Every Student site - http://teachingeverystudent.blogspot.com/. Dave Bane Access also has some really interesting views and latest news on Assistive Technology link to - www.davebanesaccess.viviti.com/.