

BYTE Conference presentation – Feb 25, 2011 (2:10 – 3:05)
(detailed outline)

Topic: **4P – Making Your SMART Board Work for You: Audio and Video Recording of Your Lessons with Microsoft Office**
Tim Lehman, Portage la Prairie School Division

Tim Lehman
tlehman@plpsd.mb.ca
<http://sites.google.com/site/mrtlehman/>

BYTE 2011 Wiki
<http://byte2011.wikispaces.com/>

Demonstration of techniques and tips for using SMART Board recording software with Microsoft Office to record lessons. Recordings can be posted online and viewed at a later time. Discussion and ideas will be presented on “inverted classroom” concept. For explanation and preparation, Google “inverted classroom”.

Prerequisite Knowledge/Skills: General SMART Board usage, Office 2007 or later

Audience: Senior Years general application, presentation will focus on science and math

Area of Focus: Educational Technologies, Innovation

1. Introduction
 - A. Who am I?
 - B. What is my background?
 - ▲ teaching for 16 years
 - ▲ Smartboard for 5+ years
 - ▲ always looking for ways to use technology and hands-on tools to enhance learning
 - C. Who are you?
 - ▲ see audience poll (for display)
 - D. What are we going to accomplish today?
 - ▲ tools to use Word and Smartboard together efficiently and effectively

2. I need a tool (Smartboard) to work with my current methods in the classroom!
 - A. On-going class notes on Word
 - B. Ability to interact seamlessly with notes (adding diagrams, written notations, and keyboard text as needed)
 - C. Record information for later review (electronic record of notes rather than erasable whiteboard, then video recording of process of working through a lesson)
 - ▲ for review and study
 - ▲ for absent students
 - ▲ for students with adaptations (limited note-taking abilities, problems with focus, organizational difficulties)
 - ▲ to apply inverted classroom techniques

3. What’s wrong with other tools?
 - A. Smartboard Notebook – limitations on formatting, features, and ease of use – doesn’t fit the way I interact with students
 - B. PowerPoint – no real-time interaction

4. Advantages of Word (2007 or 2010):
 - A. InkAware (designed to integrate with Smartboard)
 - B. Full slate of features (especially generation of lists and outlining, development of macros, wide variety of text formatting and movement options)
 - C. Widely available (convenient to transfer documents to/from others)

5. Limitations of Word:
 - A. Not fully InkAware (glitches in communication between Smartboard and Word)
 - ▲ when using text boxes, pictures, or other objects, must wrap text “in-line” (rather than “square”, “tight”, “through”, or other options) for certain combinations of Word and Smartboard drivers
 - B. Seamless integration doesn’t happen instantly (many small steps in the right direction)
 - C. The usual Microsoft issues (support, up-down-grades, feature-less features, making life unnecessarily complicated)

6. How do you get Word and your Smartboard ready to work for you?
 - A. Develop macros for convenient access to common functions (to limit mouse-clicking and hunting for links)
 - ▲ built-in features which are used frequently (_{subscript}/^{superscript}, font **UP** or down)
 - ▲ user-designed features (scientific notation $x 10^{\#}$, class notes style) – use Record Macro tool
 - ▲ provide file containing macro scripts (download from BYTE wiki)
 - ▲ provide descriptions of each macro and their function (handout)
 - ▲ see demo video link (on BYTE wiki)

 - B. Modify “Quick Access Toolbar” extensively with buttons for common macros and other actions – use these for quick access while at the board (to limit seat-time)
 - ▲ built-in features (open, save, close, insert picture/shape/text box, group, ungroup)
 - ▲ user-designed features (open Class Notes file, switch between 2003/2010 format, change zoom)
 - ▲ provide summary of toolbar showing each button and its description (handout)
 - ▲ provide details on how to produce each (handout)
 - ▲ see demo video link (on BYTE wiki)

 - C. Add keyboard shortcuts for other macros, symbols, and actions that would be used mostly when seated
 - ▲ frequently used symbols (α β Δ \div $^{\circ}$ and about 20 others)
 - ▲ built-in features which are used frequently (sort, close file, various fonts)
 - ▲ user-designed features (scientific notation $x 10^{\#}$, class notes style)
 - ▲ prepare printed quick-keys reminder sheet for top of keyboard
 - ▲ provide summary of keyboard shortcuts showing each key-combination and its description (handout)
 - ▲ provide details on how to produce each (handout)
 - ▲ see demo video link (on BYTE wiki)

- D. Solve software and compatibility glitches (see handout)
- ▲ Which version of Word? Which Smartboard drivers? Which OS?
 - ▲ Word 2010 (but saving sometimes in Word 97-2003 format)
 - The main issue for me in Word 2010 is “selection” tool – doesn’t work in Word 2010, but does work if you save in 97-2003 format.
 - ▲ Smartboard driver version: 10.0.314.5 (current is 10.7.82.0)
 - The main issue for me is general slowness (can’t keep up to my writing) which causes problems in general operation and especially when recording.
 - ▲ SMART Notebook version: 10.0.522.2 (current is 10.6.141.1) – even though I’m not using Notebook software, the screen recorder is bundled with the software
 - Make sure you save videos in “SMART Recorder Video (*.avi)” format – Smart’s version of *.wmv format isn’t readable by video hosting sites I’ve used.
 - ▲ Windows 7 Professional
 - The main issue for me is familiarity (I recently upgraded from XP due to new computer).
7. Using the Screen Recorder:
- A. Advantages over other screen recorders:
- ▲ easily accessible and straight-forward to use
 - ▲ comes with SMART software bundle
 - ▲ simple and small user interface
 - ▲ automatic selection of frame-rate
 - ▲ CamStudio is a good alternative (free) screen recorder (<http://camstudio.org/>)
- B. Wireless microphone
- ▲ I use a wireless clip-on microphone (LifeChat ZX-6000 Wireless Headset)
 - ▲ light-weight, small
 - ▲ no batteries (recharges an internal storage device)
 - ▲ inexpensive (\$30?)
- C. Basic operation
- ▲ turn on microphone
 - ▲ open Screen Recorder
 - ▲ start/pause/stop
 - ▲ menu options
 - i) Recording Quality: Sound Quality (High), Video Quality (Automatic)
 - ii) Video Format: SMART Recorder Video (*.avi) – *.wmv codec not recognized by Vimeo (hosting site)
 - (a) *.avi is a much larger file format (takes up more space on hard-drive)
 - (b) because of large file sizes, you may have to register for Vimeo Plus (much larger weekly upload limit and other advantages) – cost is \$10/month or \$60/year
 - iii) Target Files: Browse for your desired Save Directory
- D. Once all of your set-up is done, there is not much needed to figure out the Screen Recorder except practice!
- ▲ see my class videos on my website (link on BYTE wiki)

8. Make videos available for viewing:
 - A. Locally available
 - ▲ upload to school server (shared student folder)
 - B. Publically available
 - ▲ Register with video hosting service (Vimeo, Youtube, TeacherTube, etc.)
 - ▲ Upload videos
 - ▲ Provide link on website, blog, wiki, etc.

9. Where could this go next?
 - A. Inverted Classroom – students watch the “lesson” on their own time and do “homework” in the classroom
 - ▲ teacher is available when help is needed (not just to pass on information)
 - ▲ lesson is available worldwide and as often as needed
 - ▲ see Karl Fisch
 - i) Class blog – start with his first post in July 2010
http://fischalgebra1011.blogspot.com/2010_07_01_archive.html
 - ii) The Fischbowl – <http://thefischbowl.blogspot.com/>

Developing Macros in Word 2007/2010:

Macros are short user-defined computer programs executed by an application such as Word 2010 to simplify common tasks. They allow you to execute a series of commands and perform common text entry with a single click or hotkey combination.

There are three methods that can be used to create macros:

1. Direct entry of code – type in the computer instructions using Visual Basic for Applications
2. Import code – make use of macros developed by someone else
3. Record macro – use the **Record Macro** command in Word to record your keystrokes and mouse-clicks

The first of these methods is only useful if you are familiar with the Visual Basic for Applications programming language.

Importing Code

Importing code is useful if someone has developed macros you want to use and has provided you with a file which they've previously exported from Word. This is probably the easiest method for you to acquire the macros I've developed. My macro file "**MyMacros (for Normal template) – Feb 2011.bas**" is available on the BYTE2011 Wiki site.

1. Download the macro file to your computer.
2. Press **Alt-F11** from within Word to open the Visual Basic editor.
3. From the **File** menu of the Editor, select **Import File**.
4. Navigate to the location of the saved macro file you downloaded and select it to be imported.

- A "**Module**" is a group of macros.
- "**Normal**" is the name of the template Word uses to create each new document; macros you save in the **Normal** template will be available to all Word documents.

The macro file should now show up as a numbered "**Module**" in the **Modules** folder under the **Normal** heading. You can view the code by double-clicking on the module.

Return to Word by pressing **Alt-F11**. To activate the macros, they can be placed on the **Quick Access Toolbar** (see separate instructions) or assigned to a **keyboard shortcut** (see separate instructions).

Recording Your Own Macros

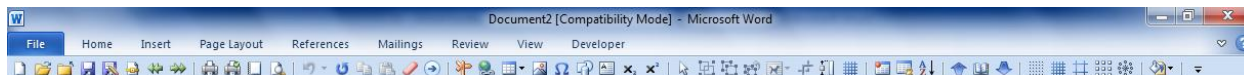
Creating your own macros is achieved by clicking on the **Record Macro** button in the Macro drop-down menu (located on the **View** tab on the far right). This button can be added to the Quick Access Toolbar (so it is easily accessible) by right-clicking on it and selecting the appropriate option.

You will be led through a series of windows to name the macro (letters and numbers only, no spaces) and assign it either to a button on the toolbar or to a keyboard shortcut (your choice). You can change this after the macro is recorded if you wish (follow separate instructions for assigning hotkeys and for adding buttons to Quick Access Toolbar).

Once you have named the macro, all subsequent keystrokes and mouse-clicks will be recorded automatically. To stop recording, press the **Stop Recording** button (same button as to start recording). If you make an error in recording, stop the recording and repeat the process using the same name for the macro. This will allow you to overwrite the old macro with the correct sequence of keystrokes.

If you wish to view the automatically-generated code for your macro, press **Alt-F11** for the Macro Editor. Scroll through the list of macros or jump to a particular macro by using the drop-down list of all macros near the right-top of the Editor window. Viewing the code can help you to learn how your macro works and enable you to create or modify macros directly by adding more code to what was already recorded.

Word Quick Access Toolbar Buttons:



File Operations

- New (creates a new document)
- Open (opens an existing document)
- Close (closes active document)
- Save (saves active document with same name)
- Save As (opens Save dialog box)
- Publish as PDF or XPS (saves active document as PDF file)
- 2003 Format ^U (saves active document in Word 97-2003 .doc format)
- 2010 Format ^U (saves active document in Word 2010 .docx format)

U indicates a user-defined macro

Printing

- Print (opens Print dialog box)
- Quick Print (automatically prints whole document)
- Print Current Page ^U (automatically prints page cursor is on)
- Print Preview (opens Print dialog box – same as “Print” in Word 2010)

Basic Editing

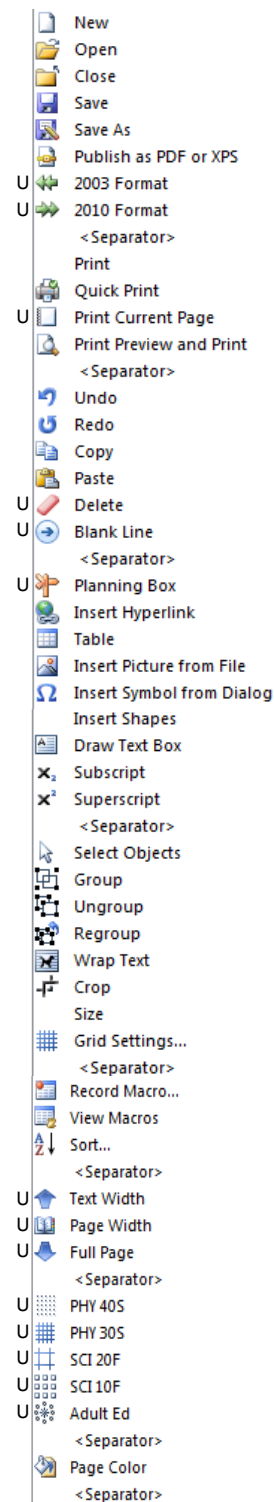
- Undo (undo last change)
- Redo (redo last change)
- Copy (copy selection to clipboard)
- Paste (paste clipboard)
- Delete ^U (delete current selection)
- Blank Line ^U (insert blank line – equivalent to pressing ENTER)

Insert Items

- Planning Box ^U (inserts box at top-right of page for showing class planning)
- Insert Hyperlink (opens Hyperlink dialog box)
- Table (opens Table drop-down menu)
- Insert Picture from File (opens Insert Picture dialog box)
- Insert Symbol from Dialog (opens Symbol dialog box)
- Insert Shapes (opens Insert Shapes drop-down menu)
- Draw Text Box (activates Insert Text Box cursor)
- Subscript (activates Subscript font)
- Superscript (activates Superscript font)

Object Manipulation

- Select Objects (activates Select Objects tool)
- Group (groups selected objects)
- Ungroup (ungroups selected object)
- Regroup (regroups objects)
- Wrap Text (opens Wrap Text drop-down menu)
- Crop (activates cropping tool for selected picture)
- Size (opens Size drop-down menu)
- Grid Settings (opens Drawing Grid dialog box)



Macro

- Record Macro (record-macro toggle – press to record, press again to stop recording)
 - View Macros (opens Macros dialog box)
 - Sort (automatically sorts selection in ascending alphabetical order)
-

Zoom

- Text Width ^u (zoom to text width)
 - Page Width ^u (zoom to page width)
 - Full Page ^u (zoom to full page)
-

Special Files


- PHY 40S ^u (open class notes for PHY 40S)
 - PHY 30S ^u (open class notes for PHY 30S)
 - SCI 20F ^u (open class notes for SCI 20F)
 - SCI 10F ^u (open class notes for SCI 10F)
 - Adult Ed ^u (open class notes for Adult Ed.)
-

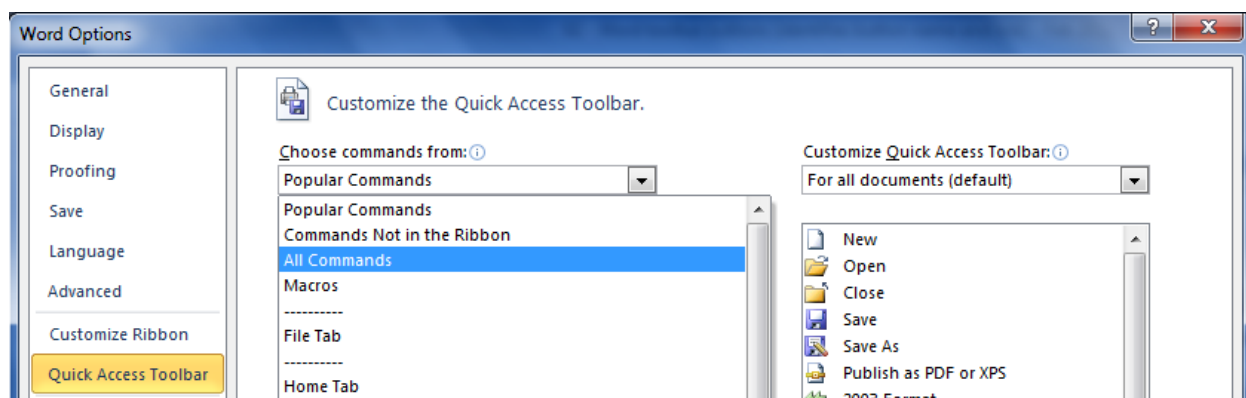
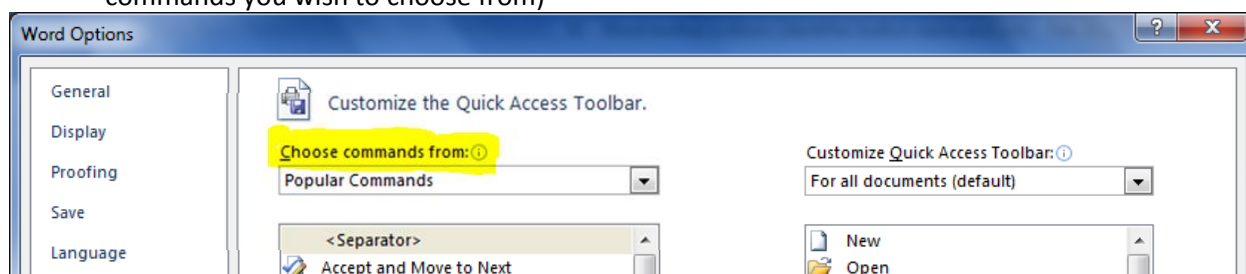
Other

- Page Color (opens Page Color drop-down menu)
-

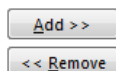
Adding Buttons to the Quick Access Toolbar:

Commands can be easily added to the Quick Access Toolbar by right-clicking on the command on the ribbon and selecting **Add to Quick Access Toolbar**. However, some commands you may want to add are not on the ribbon. In addition, you may want to organize them into groups or add a bunch of commands at the same time.

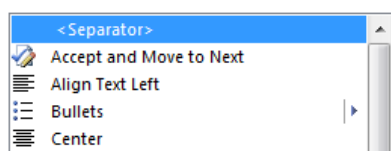
1. Click on  (**Customize Quick Access Toolbar**) at right end of toolbar.
2. Click on **More Commands...** at the bottom of the drop-down menu.
3. From the **Choose commands from** drop-down menu, choose **All Commands** (or whichever set of commands you wish to choose from)



4. Select whichever commands you wish to add to your toolbar (double-click, or use the **Add** and **Remove** buttons).



5. To add user-defined macros, repeat step 3 above but choose **Macros** from the drop-down list. This will display any macros you have previously recorded.
6. Add separators (available at the top of the command list) to organize your buttons into groups.



Print this template and tape above laptop keyboard. Re-shape as needed for your computer.

Word Hotkeys (keyboard shortcuts):

ctrl-shift-1	½	ctrl-alt-B	β	alt-P	π	alt-=	≠	ctrl-alt-Q-W	shrink/grow1 point		ctrl-shift-P	print current page		ctrl-alt-[-]	white/black screen	
alt-A	→	alt-D	°	alt-shift-P	⊥	ctrl-alt-=	≡	alt-Q-W	subscript/superscript	Tools	alt-shift-S	sort	Views	-(blue)	blue screen	
ctrl-alt-A	α	ctrl-D	Δ	ctrl-alt-P	ρ	ctrl-alt-shift-=	≡	alt-1-9	various fonts		ctrl-alt-S	select-pointer toggle		-(orange)	orange screen	
alt-shift-A	∞	alt-shift-D	÷	alt-T	θ	alt-ctrl-	—	ctrl-alt-X	strikethrough		alt-shift-X	close file		-(yellow)	yellow screen	
		ctrl-alt-E	↔	alt-shift+	±											
		alt-E	ε					alt-, .	_____	Styles	alt-C-shift-C	class notes				
		alt-shift-I	∞					alt-'	non-numbered line		ctrl-alt-1-4	heading 1-4				
		alt-shift-L	λ					alt-shift-N	name and date		alt-N	normal style				
		alt-M / alt-U	μ					ctrl-Q	equation toggle		alt-shift-□	sec. break (cont.)				
		alt-O	Ω					alt-S	scientific notation	Breaks	ctrl-alt-□	sec. break (page)				
											ctrl-shift-□	col. break				

Instructions for assigning hotkeys:

1. For keyboard shortcuts to commonly used symbols:
 - A. On the **Insert** tab select **Symbol** (far right end).
 - B. In the **Symbol** dialog box, choose the desired symbol, then select **Shortcut Key** from the bottom of the dialog box.
 - C. Assign the desired hotkey combination, using combinations of **Ctrl**, **Alt**, **Shift**, and a letter, number, or punctuation mark.
2. For keyboard shortcuts to user-defined macros and built-in Word commands:
 - A. On the **File** tab select **Options** (near the bottom).
 - B. In the **Word Options** dialog box, select **Customize Ribbon**, then select **Customize** beside **Keyboard Shortcuts**: near the bottom of the dialog box.
 - C. In the **Customize Keyboard** dialog box, scroll down in the **Categories** list and select **Macros** (or whichever other category of command you wish to access with a hotkey).
 - D. Once you've chosen the desired macro or Word command, assign the desired hotkey combination, using combinations of **Ctrl**, **Alt**, **Shift**, and a letter, number, or punctuation mark.

I have this template placed below the keyboard on my laptop, to the side of the touchpad.

Windows 7 Keyboard Shortcuts

<http://www.guidingtech.com/4535/windows-7-keyboard-shortcut/>

Win + E → open Windows Explorer
 Win + L → lock desktop
 Win + D → toggle desktop view
 Win + F → find
 Ctrl-Shift-N → create new folder
 Win + 1, 2, 3... → open taskbar programs
 Alt + Fn + PrtSc → print active window
 Alt + Up → up one level in directory
 Alt + Left → back
 Alt + Right → forward

Glitches to be aware of when using Smartboard with Word:

- **objects (pictures only?) in the same document as InkAware objects**
 - ▲ specific circumstances leading to error → using “square”, “through”, or other text wrapping options besides “in-line with text”
 - ▲ result → gives many diagonal black lines leading off the page
 - ▲ solution → select all black lines (with select tool in 2003 format) and delete them, then change text wrapping to “in-line with text”
 - ▲ NOTE: this only seems to be an issue with Word 2007

- **InkAware objects not inserted at correct location**
 - ▲ specific circumstances leading to error:
 - hiding white-space between pages in Print Layout view
 - OR un-grouped drawing objects elsewhere in document
 - OR drawing was created on an un-used location in the document (no text or blank lines “under” the drawing)
 - OR document is currently saved in Word 2010 format
 - ▲ result → when drawing is “inserted as object”, it will move to a different location (up, down, different page) or disappear
 - ▲ solutions:
 - if white-space is hidden, double-click on line separating pages to show white-space
 - use select tool (Word 2003 format) to group all objects at other locations in the document (rather than leaving bits of ink as separate objects in a drawing)
 - make sure when drawing on a blank section of your document that there are always blank lines “under” your location (insert a bunch of extra blank lines before starting to draw)
 - if document is in Word 2010 format, use Save As command to change to Word 97-2003 format

- **insert-as-object button does not work**
 - ▲ specific circumstances leading to error:
 - document is currently saved in Word 2010 format
 - document (in Word 2003 format) has just been opened and no previous drawings have been inserted during this usage
 - switching between different open Word documents (no problems found with other applications)
 - ▲ result → drawing disappears when insert-as-object button is pressed on InkAware floating toolbar
 - ▲ solution:
 - if currently saved in 2003 format, change to 2010 format, insert a small “test” drawing, then re-save in 2003 format
 - if currently saved in 2010 format, save as 2003 format instead
 - general solution: always work in 2003 format, but when first opening a document, follow first solution above