Title: Hmm!! Sounds good!
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HMMM!! SOUNDS GOOD!

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SYNOPSIS

According to the constructivist learning model, ‘learning engages the entire physiology not just the intellect’. Students would be more motivated to learn if their senses are engaged. Multimedia presentations with its rich animation effects and sounds would be one of the means of creating a conducive learning environment that engages the students’ sense of sight and hearing. That is perhaps one of the reasons why many teachers use Powerpoint to add the multimedia element into the classroom presentations.

This paper would explore the various kinds of sound elements and the effect each of these sound elements has on transforming an otherwise static lesson into one that is able to capture the imagination of the students.

BACKGROUND

The Singapore schools of the 21st century have been very well equipped with the latest Information Technology (IT) infrastructures. The purpose is very much to help teachers deliver their lessons more effectively as well as to arouse and motivate the students’ desire to learn.

One of the ways that teachers have made use of these IT resources is in their lesson presentation. Teachers realised that a well created multimedia presentation with the appropriate elements of sound and visual would be able to capture the attention of students more effectively than the traditional ‘chalk and talk’. One of the popular presentation programs used by teachers in their teaching is Powerpoint. The program comes with its own clipart and sound library. Often, teachers may need a very specific type of sound or even a unique music clip to add the intended effect and mood to the presentation. These sounds would not be available in the Powerpoint sound library. Teachers would then have to create these unique sounds to suit their intended lesson objectives.
This paper is written as a follow-up to the hands-on session that I have conducted during the conference. During the workshop the participants explored the following areas:

- Creating and editing their own sound snippets
- Defining various types of sound formats
- Identifying the various sources of sound files available
- Developing their own sound resources

This paper is not intended as a step-by-step users’ guide on how to use a particular application. Firstly, it would become a manual if I attempt to put the myriad of instructions into writing. Secondly, such a manual would become obsolete shortly after they hit the shelves. Lastly, there are simply too many programs that could be downloaded free of charge from the web. Many are also packaged free with some IT-related magazines.

Rather, the purpose of this paper is to provide an insight into the various sound formats available so that users would have an idea of the kinds of applications that would be able to handle them. This aspect is important as knowing the various applications that can handle the different sound formats is akin to knowing which tool to use if one wanted to remove a nail from a wooden plank.

I would also highlight how the various kinds of sound elements like speech, sound effects and music could bring about different responses from the learner. Knowing when to use the various kinds of sound elements to evoke the intended response from the learner would mean that the teacher is able to achieve greater influence over the intended learner outcome.

**DESCRIPTION OF STRATEGY**

**The Sound Medium**
The main benefit of audio is that it provides a channel that is separated from that of the display. Speech can be used to offer commentary or help without obscuring information on the screen. Audio can also be used to provide a sense of place or mood. Mood-setting audio should employ very quiet background sounds so as not to compete with the main information for the user’s attention.

Sound in the form of music is very commonly incorporated into presentation for teaching purposes. During music lessons or even when discussing about a particular piece of music in class, the students would be able to relate better to the lesson when they are able to hear the music. When students are given the chance to appreciate the music, the lesson would become livelier. Thus, learning would be more meaningful to them. Moreover, it is much easier to play the music for the students than to show the music notes to them or to describe the musical piece in words.

Voice recordings can also be used as an effective teaching tool in the classroom. Using speech clips is an effective strategy for teaching students the pronunciation of words. The clips could also be played repeatedly until the students are able to pronounce the words correctly. Just imagine having to do that without the recorded clips!
Non-speech sound effects can add an extra dimension to the presentation by signaling the background events in your presentation: for example, the sound of turning pages from a book. It could also be used to emphasize some relevant points in the presentation. Sounds that are well created could actually evoke the learners’ emotions and are known to enhance the learners’ experiences substantially. With that objective in mind, it is worth investing in professional quality sound production equipment like microphones and software.

The Sound Formats
In this section, we would be taking a look at the various sound formats. A discussion on the use of sound in a multimedia presentation would not be complete without touching on this topic. The reason being, there are so many sound formats available in the market but most of the applications for playback are only able to handle some, but not all of the formats. It is therefore important for us to know which are the applications that can handle the various types of sound formats. Another thing to know is that there are also programs available that could convert a particular type of sound format to suit the application being used.

Files containing data used to recreate audio on a computer are called audio files and are also available in many different formats. Similar to image formats, audio files can either store a digital sampling of the sound wave (sound files, like a raster image) or contain a digital encoding of the type, shape, and timing of all the notes used in the composition (music files, like vector images). A list of the various sound types is found in Appendix 1.

The Sound Elements
The three audio elements in multimedia production are speech, sound effects, and music. Silence and its effects are also important considerations when planning multimedia presentations. The various functions of these elements are discussed in the next three sections of this paper. The teacher should consider the intended learning outcomes carefully when using audio and media in order to evoke the source images in students’ minds.

(i) Speech

Narrative speech can be used to:

• *Deliver concrete information*: Concrete information could include directions for completing a project or possibly descriptive information that relates to the image being displayed. When narration is presented with text, the text and narration must be exactly the same. Discrepancies may result in distractions and may cause interference in learning the material. This would translate to less retention or misinterpretation of the material.

• *Replace text*:Narration is most useful, as a replacement of text when screen space is limited and the addition of text would reduce the visual impact of the page. Narration saves screen space and visual clutter.

• *Direct viewer’s attention*: The image displayed on the screen may need to be the focal point. Narration is used to direct viewer’s attention to the image being displayed rather than forcing the viewer to alternate between viewing an image and reading the text explanation.
(ii) Sound Effects

Sound effects are available on the Internet and some are also available in PowerPoint. Used sparingly and with careful selection of quality, they add a tremendous depth of feeling to a presentation.

When sound effects have a contextual function, the sound effect interprets the visual as it appears. Examples include:
- a dog barking or a dog begging for a treat
- the roar of a jet or airplane engine in normal flight or taking off, or the sound of a jet having engine trouble

(iii) Music

Music is very effective in communicating complicated emotions and moods. Functions of music in multimedia presentations include establishing locale or time, identifying characters and events, acting as a transition element between contrasting scenes, and setting the mood and pace of presentations. Background music also has a powerful effect to enhance and support a topic. Examples of each function are listed below:
- Locale: Music can define a locale with ethnic melodies.
- Time: Music can establish time with musical elements that suggest a period in history such as the 1960’s or the Roman era.
- Identification: Music can identify characters and events with recurring themes. A short musical phrase or specific sound effect can be used to signal the appearance of a person, action, or situation.
- Transitions: Music can be used to connect one idea or scene to another. It can also smoothen the transition to a contrasting theme. It prepares the audience by letting them know that something is going to change.
- Pace: Music can be used to establish the pace of the presentation. This pace can parallel the visual media or provide counterpoint to signify tension or irony.

The Sound Sources
In addition to the sound clip library that comes with the Microsoft Office, there are various other sources available as well. There are commercially made sound clip compilations available. The Internet is a very rich source of free sounds for downloading. On the other hand, teachers would be encouraged to create their own sound clips to suit their own teaching purposes using the appropriate software. Such software are available in the form of commercial, shareware or freeware.

Some Sound Software
These audio programs will play various sound formats. Some will create sounds in specific formats. They are easily available from the Internet and in CD ROMs enclosed with some IT magazine titles. A few of the commonly used audio programs include Audiograbber, Winamp and Musicmatch Jukebox.
There are also many sound editing programs available to convert sounds into different qualities or formats. These programs or sound editors, as they are commonly called, will perform the functions described. Some of the more popular sound editors are CoolEdit2000, Soundforge and Goldwave. These are just a small sample of the hundreds of sound programs available on the Internet. A search at this website www.cnet.com/downloads would bring forth many programs that perform similar functions. Download the music player and editor that best suit your needs.

REFLECTION

There was a time when I used to look at professional presentations and marveled at the way they were designed. The multimedia would grab my attention, and the presenters usually made their point across effectively using multimedia in their presentations. I used to think that such productions would involve a high level knowledge of computing and designing. However, that scenario has changed. Nowadays, with the sleuth of utilities available to a normal or casual PC user, practically anyone can produce such presentations quite easily.

I feel that creating quality multimedia presentations with suitable sound effects is well worth the effort. It would engage the pupils’ entire physiology and provides an environment for them to digest other data inputs as well. It also helps them to focus on their own knowledge construction. Students will be able to construct their own knowledge once they are given the ‘bits and pieces’ to build their understanding. The audio and visual elements in the presentation would form some of these ‘bits and pieces’ that add meaning to the learning process.

By creating and using appropriate sound effects, teachers would be setting up a rich and authentic problem-solving environment that provides authentic contexts for learning in the classroom.
Appendix 1

.au
An AU is an audio sound file native to Sun workstations. It is playable by wmplayer on Pentium computers or with Netscape’s built-in AU player.

.iff
An IFF is a sound file playable on Pentium computers with wmplayer and on Unix workstations with xanim.

.mid, .rmi
MIDI files can be played with the Windows MIDI sequencer. They are music files that conform to the MIDI standard. Play them with Media Player on the Pentium computers, or load them into MusicProse or Finale on a Macintosh.

.mod
A MOD file is a music file format originally from the Commodore Amiga, but which is now popular on IBM-compatible computers.

.qt
A QuickTime movie can contain just sound and no video. Any program that can play QuickTime can play QT sound files.

.snd
An SND is a Macintosh clickable sound format. It is playable on any Macintosh and on Pentium computers with wmplayer.

.voc
VOC (voice) files were originally popularized by Creative Labs. They are sound files similar to WAV. These files are openable on Pentium computers with wmplayer.

.wav
WAV (wave) files are Microsoft’s native audio sound format. WAV files can include 8-bit or 16-bit sound, in mono or stereo. They can be played on Pentium computers with Media Player and wmplayer.

REFERENCE

reference url: http://www.nerel.org/sdrs/areas/issues/envrmnt/drugfree/sa3const.htm