

Incorporating Multimedia into Your Teaching

Be Free To Teach

Individual Highlights:

Incorporating Multimedia
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Multimedia Resources

One of the most important uses of technology is that it makes it easy for instructors to incorporate multimedia into their teaching. While we use all of our senses to take in information, we each seem to have preferences in how we learn best. In order to help all students learn, we need to teach to as many of these preferences as possible.

There are a number of different models of learning styles. One of the most popular identifies visual, auditory, and kinesthetic as the three ways in which people take in information. We know from experience that students respond well to the use of images to stimulate their interest in a subject. For about 65% of the population, this is their preferred style. Photographs, maps, paintings, graphs/charts, drawings are just a few of the types of visuals that can be used to engage students who are more visual learners. About 30% of the population prefers to receive information in an auditory manner. Some ways that you can incorporate sounds into your class include readings (poets reading their own works, you reading important passages from a book, etc.), music, specific sounds (bird calls, ocean waves, etc.), and language tapes in foreign language classes. Finally the 5% of the population that prefers a kinesthetic approach would enjoy “doing” things as a way to learn information. This could include participating in labs, demonstrations, and various kinds of simulations. (See the websites listed at the end of this handout for more suggestions.)

When we think about a typical university course, it is rare to find all three of these approaches to learning incorporated into a class. While it may seem impossible to do this, it can be done through thoughtful planning and preparation. It does force us to conceptualize the class differently—with a focus on the variety of ways in which students learn. See the example below.

Date	Class Topic	Visual	Auditory	Kinesthetic
10/04/05	Declaration of Independence	Project paintings of major characters; maps; pictures of actual documents; diagrams of how related documents impacted Jefferson. Visual deconstruction of the document text—how were different groups of people depicted and impacted.	Reading aloud of the Declaration; reading aloud of different opinions of the Declaration; reading aloud of related documents.	Role play a debate between persons from that era—some who are for the Declaration and some who are against it.

Sound and Video Files

Sound and video can play a powerful part in the learning experience. The key word is part. Do not let media overwhelm the rest of the experience. Here are some ideas to keep in mind:

- These files can take up a lot of storage space. The higher the quality the more space it will take to store the file. Larger files take longer to load and download.
- By default, PowerPoint automatically links to these files rather than embedding them in the presentation. When your presentation has linked files, you must copy the linked files as well as the presentation if you are going to be giving the presentation on another computer. In addition, the files must be at the same level as they were on the original computer. This means if, on your computer, a folder is entitled “lecture one” and in it are your PowerPoint file and all the media files associated with it, then you’ll need to copy the entire folder to the new computer and leave the media files where they were relative to the presentation.
- Different file types allow different options for playback, quality, size and compatibility. Adding these files to your PowerPoint presentation is the easy part. You’ll want to learn a little something about sound and video files before you dive in. The CET (<http://libweb.uoregon.edu/cet/>) is a great place to start.
- Consider your presentation environment when planning to incorporate sound and video into your presentation. While your laptop speakers may pump out some volume, it’s unlikely that they will be sufficient for students in the back of the classroom.

“The truth will set you free. But first, it will piss you off.”
-Gloria Steinem

Image Files and PowerPoint

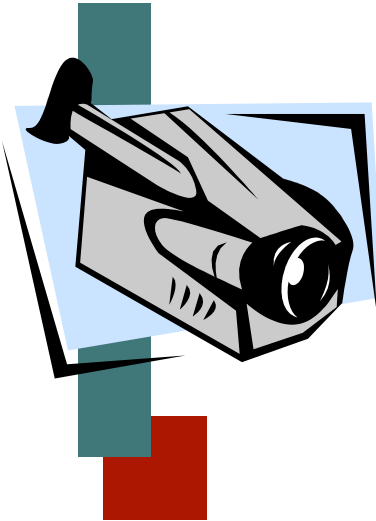
PowerPoint handles many popular graphic file formats into your presentation. You don't need a separate filter to insert the following file formats:

- Enhanced Metafile (.emf)
- Graphics Interchange Format (.gif)
- Joint Photographic Experts Group (.jpg)
- Portable Network Graphics (.png)
- Microsoft Windows Bitmap (.bmp, .rle, .dib)
- Windows Metafile (.wmf) graphics
- Tagged Image File Format (.TIFF)

For more information on some of these image types, see *Understanding Digital Images at <http://tep.uoregon.edu/technology/powerpoint/textdocs/digitalimages.pdf>*. When possible, it is recommended that you use a jpeg (.jpg) image for a smaller PowerPoint file.



Inclusive Classroom Considerations



When working with multimedia it is important to take several things into consideration. While no one would consciously teach in a manner that would exclude students, sometimes we do things unconsciously that make certain students or groups of students feel uncomfortable or not involved in the class. You know what you are trying to accomplish by using a particular image, sound file or movie clip, but the students will not. They will make assumptions and draw conclusions based on the material you use. Multimedia is powerful and we need to use it thoughtfully.

Here are some questions to ask when selecting media for use. When you take the time to consider these things and ask your students to do the same, you are modeling a powerful lesson for them.

- |||| Who is included? Who is not included?
- |||| How are those who are included represented? Positively or negatively?
- |||| Do they reinforce stereotypes in any way? (If they do, or might to some students, don't use them.)
- |||| What assumptions might students make from the media files you use?

For web resources regarding inclusive use of media, especially images, see *Understanding Digital Images* included in your red folder.

Copyright and Fair Use

Educational use of copyrighted material can sometimes be justified through the "fair use" clause in federal copyright law. The goal of this section is to briefly define the elements of "fair use" and to lead you to more substantial sources for information about how copyright law applies to teaching with the Internet.

Factors of Fair Use

If you use a piece of copyrighted material in your teaching, four factors will determine whether or not your use of that material qualifies as "fair use." Note that **ALL FOUR** of these factors must be evaluated for fair use to apply.

1. **What is the nature of the use?** Is the reproduction or the distribution for education or for commercial gain?
2. **What is the nature of the copyrighted work?** Fiction, high-level analysis, works of art, and musical composition are considered the most creative and therefore receive the most protection from infringement. Compilations and derivative works are usually not protected by copyright at all (except possibly in their format or user interface).
3. **What is the quantity of the work used?** If you use 3% of the total substance of the work or less, you are probably safely within fair use. If you use more than 10%, you are in uncertain territory.

"Prejudices, it is well known, are most difficult to eradicate from the heart whose soil has never been loosened or fertilized by education; they grow there, firm as weeds among rocks.
-Charlotte Bronte

4. **What is the potential impact on the copyright holder's market?** If your use of some material could materially reduce the creator's ability to profit from it, this factor would point toward your use not being "fair".

The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors. NCSU's Copyright Tutorial (<http://www.lib.ncsu.edu/scc/tutorial/index.html>) provides more information on each of the four Fair Use criteria.

Additional sources of information are:

|||| **Copyright Principles in Action** (<http://darkwing.uoregon.edu/~copyright/>)

|||| **The Educational Multimedia Guidelines**
(<http://www.uspto.gov/web/offices/dcom/olia/confu/appendix.htm#j>)

|||| **Christine Sundt's Copyright & Art Issues**
(<http://darkwing.uoregon.edu/~csundt/copyweb/>)

|||| **Stanford University Copyright and Fair Use**
(<http://fairuse.stanford.edu/>)

Multimedia Resources

Using Technology in Teaching and Learning

|||| Use of Technology in Teaching and Learning

Instructional Technology Group, Yale University

<http://classes.yale.edu/help/itg/itg/examples.html>

Great first site to visit. Includes examples of using images, audio, video, simulations, and course materials and study aids. (However, many of the links are open only to students at Yale University. The ones below are among those accessible to "outsiders".)

|||| Intermediate Chinese (Chns 130, Prof. Ling Mu, Spring, 2005)

<http://classes.yale.edu/chns130>

Includes listening exercises. Provides many ways for students to learn. There are Chinese characters, videos of student skits, and photos of signs in Chinese. Check out the *Media Resources* links.

|||| Intermediate Japanese (Japn 14k0, Prof. Maruyama, Fall 2004)

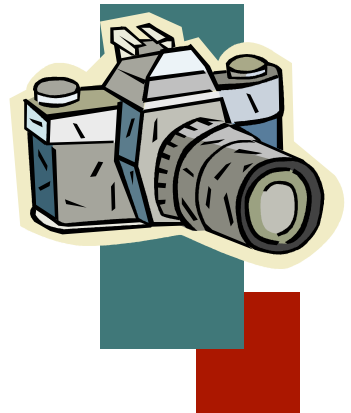
<https://classes.yale.edu/japn140/home.html>

Sound and graphics enhance the teaching of Japanese.

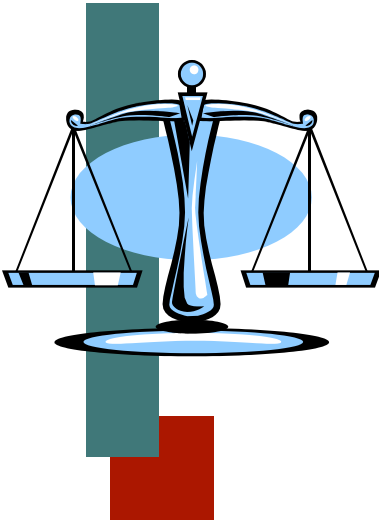
|||| Fractals (Math 190, Prof. Frame)

<http://classes.yale.edu/fractals/>

Explores fractals in a variety of ways including Surrogates of the Stock Market that illustrates how the cartoon method can generate convincing surrogates of the stock market. Students can experiment with an online Chaos Game. Explores fractals in mathematics, in living systems, in art and architecture, in poetry and in physical systems. In the Optical Gasket Lab silvered plastic Christmas tree ornaments are used to construct optical versions of the Sierpinski gasket.



Learning Styles and Multimedia



Addressing Diverse Learning Styles Through the Use of Multimedia

by Susan M. Montgomery, ASEE/IEEE Frontiers in Education '95 Session 3a2 - MULTIMEDIA 1.

<http://fie.engrng.pitt.edu/fie95/3a2/3a22/3a22.htm>

Good background reading on what instructors can do to enhance student learning.

Learning Styles Versus Teaching Styles

<http://www.sosu.edu/cidt/briefs/tb1.htm>

Key statistics from Montgomery's paper presented in a concise, readable manner.

Creating, Evaluating, and Selecting Instructional Resources

http://web.utk.edu/~mccay/apdm/selusing/selusing_d.htm

Includes information on Edgar Dale's "Cone of Experience" that relates various approaches to teaching with their corresponding level of abstraction.

Learning Styles

http://www.ncsu.edu/felder-public/Learning_Styles.html

Links to a number of oft-cited articles by Richard M. Felder. Good reading on learning styles, especially as they relate to teaching science and engineering courses.

Learning Styles

<http://www.columbia.edu/cu/gsas/cs/tch-rce/pages/tch-tip/sec/learning-styles.html>

Descriptions of visual, auditory, and kinesthetic learning styles with suggested activities for each style.

Public Domain – A Place to Start

Public Domain / Copyright Free Media

<http://eduscapes.com/tap/topic98.htm>

This page provides links to some of the better copyright-free and public domain resources. Links are intended for educators and librarians who wish to locate quality, copyright-friendly materials for educational, noncommercial, and nonprofit projects.

TheFreeSite.com

http://www.thefreesite.com/Free_Sounds/Free_WAVs/

This site provides a collection of links to sound files available for free on several other sites. WAV categories available here include cinema, TV, sound effects, computer system events, politics, humor, and more.

Picts4Learning

<http://pics.tech4learning.com/>

Picts4Learning offers copyright-free images for education.

*"In the end antiblack,
antifemale, and all
forms of
discrimination are
equivalent to the
same thing-
antihumanism."
-Shirley Chisholm*