Effective Multimedia Lecture Slides

Presentations involving PowerPoint (and other software) are a popular platform for lecture material, and can ease retention of course concepts. The following worksheet draws from scholarship about the most impactful formats for presentations that help students learn.

How much presentation do you need? Generally speaking, a slide is only helpful if it will:

Introduce important concepts or complex material

Involve an image that you will concurrently narrate with lecture

Highlight a brief, important quote that you will either unpack or expand upon with your lecture

Present information that cannot be easily explained

Connect to content from a previous or upcoming slide

If a slide does not meet one or more of these criteria, consider using another medium (Niemer, 2014).

Initial slides may provide a brief, bulleted outline of the lecture and define important concepts.

Further slides should fall into one of several categories (Garner & Alley, 2013, 2016; Mayer, 2014; Overson, 2014):

Evidence toward an assertion slides present an assertion (either at the top of the slide or verbally) with a graphic that explains that assertion. The graphic is then described and explained in detail verbally.

Slides that signal key concepts or define key terms. This may be done by pulling out a quotation or definition, setting it off with a box, an arrow, or change in text color, and spending time unpacking meaning.

Regardless of the type of slide, the content should be kept simple (Mayer, 2014; Overson, 2014):

Slides should not be verbatim repetition of lecture content.

Graphics should be easy to read, without too many complex components.

All slides should present the content in a simplified manner, reducing effort needed to connect lecture to the visual aid.

Narration should reference and draw from the slides immediately present, as though you are in conversation with the presentation.

General advice on slide legibility:

Maintain similar text formatting throughout the presentation, unless you are highlighting important material.
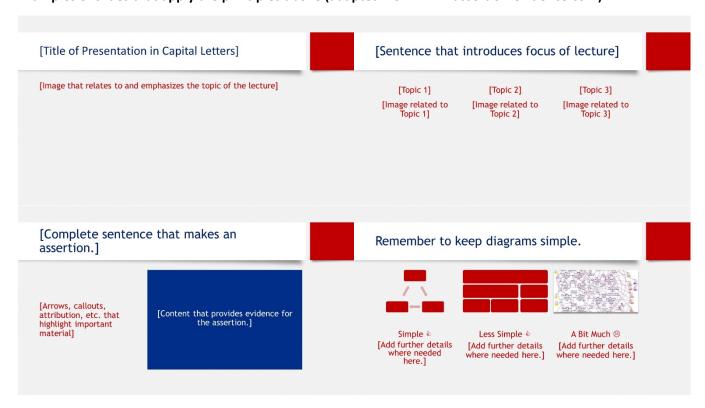
Sans serif fonts are easier to read than serif fonts.

Use appropriate capitalization

Fonts should be no smaller than 18-point to be legible. 24-point if you are providing definitions/quotes.

Use colors that are on opposite ends of the color spectrum/starkly contrast each other. Avoid combinations that may be difficult for students with colorblindness to see as they are similar in hue or spectrum location (i.e. Green & Red; Green & Brown; Blue & Purple; Green & Blue; Light Green & Yellow; Blue & Grey; Green & Grey; Green & Black).

Examples of slides that apply the principles above (adapted from www.assertion-evidence.com):

[Note: However you design your presentation, fully describing visuals and unpacking definitions or quotes will be helpful for all students, including English Language Learners (http://www.brown.edu/go/ell) and students with disabilities (https://www.brown.edu/campus-life/support/accessibility-services/resources-teaching-students-disabilities/teaching-students-disabilities).]

Sources:

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Mayer, R. E. (2014). Research-based principles for designing multimedia instruction. In V. A. Benassi, C. E. Overson, & C. M. Hakala (Eds.). *Applying science of learning in education: Infusing psychological science into the curriculum* (pp. 59-70). Retrieved from http://teachpsych.org/ebooks/asle2014/index.php

Mayer, R. E., & Moreno, R. (2003). Nine ways to reduce cognitive load in multimedia learning. *Educational Psychologist, 38*(1), 43-52.

Niemer, R. [CRLTeach]. (2014, January 24). *PowerPoint based on the science of learning* [Video File]. Retrieved from https://youtu.be/39FIZt9hqNY

Overson, C. (2014). Applying multimedia principles to slideshows for academic presentation. In V. A. Benassi, C. E. Overson, & C. M. Hakala (Eds.). *Applying science of learning in education: Infusing psychological science into the curriculum* (pp. 252-258). Retrieved from http://teachpsych.org/ebooks/asle2014/index.php