Redesign Your Slides
Guidelines and Tips

A bad workman will never find a good tool.
— French Proverb, 13th Century.

PowerPoint is blamed for any poor presentation\(^1\), but the blame is not always deserved. PowerPoint is a software tool that properly used can help you to create outstanding presentations. PowerPoint includes many useful tools that allow you to design powerful and informative slides. Unfortunately, PowerPoint provides default templates that are poorly designed, and backgrounds that are distracting and crowded. We, as teachers, must learn to use our software tools properly to give our students the best opportunities to learn.

Most people make slides with one of the default templates that come with PowerPoint, so their slides are already designed poorly. The default layout of the slides encourages design of slides that are not informative. At the top of the slide is a short, centered phrase that is usually not very informative. The rest of the slide is filled with a list of bullet points, containing anything from 5–7 word phrases to long sentences. PowerPoint provides four sublevels for each bullet point. Many people use them but unintentionally bury important information on a third or fourth level.

Many of us use PowerPoint in the classroom as a tool to help us teach our students. Learning is diminished, however, if students have difficulty identifying the key information contained on the slides. Good slide design is therefore essential for student learning. Michael Alley has proposed\(^2\) a slide format that he calls the Assertion-Evidence structure. Alley’s studies suggest that student learning and retention may be enhanced compared to the “phrase and bullets” format of a typical PowerPoint slide. Although the title of his book state “Scientific Presentations,” the assertion-evidence structure applies to any presentation. Assertion-Evidence works well in the classroom, where many of his ideas were methodically tested.

Alley’s slide format consists of a single assertion, formatted as a complete sentence. The sentence should take no more than two lines. The rest of the slide is filled with visual evidence, such as a picture or graph. The slide may contain secondary statements that provides additional supportive evidence or that highlights some part of the

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\(^1\) Poor presentations can be blamed also on Apple’s Keynote and other presentation software.

supporting image. Alley advocates leaving plenty of white space around the images. Alley’s slide format uses one main topic but the slide may include a related subtopic.

I feel that Alley’s Assertion-Evidence structure is far better than “phrase and bullet” slides for teaching but I have made three changes to Alley’s format (shown at right) that I use for my slides. First, I fill the slide with the image, leaving little to no white space on the slide. I feel the larger image enhances the visual impact of the evidence supporting the assertion. Use your judgement, however. If your needs dictate a smaller image, or a large image is not available, then adjust accordingly.

Next, because I fill the slide with an image, I rarely add secondary statements. I put supporting statements on a second slide. In my view, the supporting statements are still assertions and so should be supported with visual evidence. It takes no extra time to talk about the same information spread across two slides.

Finally, I try to limit my assertion sentences to a single line, leaving more room for the evidence. I am not dogmatic about this but I try to find the most compact yet effective wording to make the point of the slide. My view is that students should be able to scan the slide in 3–5 seconds and understand the main point. You, as the instructor, provide the details. (I did not modify the assertion statement in the example shown at right.)

Most of my thoughts about slide design were strongly influenced by Garr Reynolds. He has published several excellent books on effective presentations; Presentation Zen Design emphasizes slide design. Another excellent book is Slideology by Nancy Duarte. In addition to slide design, her book provides many other strategies for developing and delivering great presentations.

Below are several guidelines and tips for creative effective presentation slides. I have culled this information from a variety of sources, especially the Reynolds and Duarte books above. These guidelines are just that, ideas to stimulate your own creativity. Tweak them to suit your needs and teaching style.
General Advice

Use one point per slide. Each point you make should have evidence to support it. A slide that has three bullet points can be spread across three slides. You’ll need the same amount of time (or slightly longer) to cover the same material but each point will have associated visual evidence. According to Alley’s work, your students will better learn the material.

Take your time designing your slides. Redesigning existing slides or designing new slides takes time and effort. Think carefully about each point you want to make. Word your assertion statements carefully. Be concise without sacrificing meaning. Use evidence that supports your assertion statements.

PowerPoint and Other Presentation Software

Do not use PowerPoint’s built-in templates. The templates are based on the “phrase and bullets” format, which you should avoid. The backgrounds included with many templates are busy, which distracts from the impact of the visual evidence you use to support the assertion. The templates waste space on the slide and are overly used (abused). Next time you are at a professional conference, count how many times you see the same templates. You may have to take off your shoes.

Create your own template. You can build a template in PowerPoint that has all of the features that you would like to have in your slides. In my view, you need only a textbox for the assertion statement. If you use full size images (see below), then you do not need to have any type of place holder for your visual evidence (images). The assertion statement does not have to be at the top of the slide. Limit your use of the two column format as that limits your design flexibility. Simple is better.

Left justify the text in your assertions. We read the English language from left to right. Centered text slows down reading because the lines do not all begin at the left edge.

Use a solid background color. White or black backgrounds work best in most situations although a white background works especially well in bright classrooms. White backgrounds also don’t use as much ink if you provide copies of your slides to students for printing.
Use a consistent format. Use good taste and a professional sense as you design your template. Professional does not have to mean formal. Let your personality and creativity shine through. Apply your format consistently across all of your slides, at least for the same lecture.

Limit use of animations. Animations such as “Appear” can be effective but use them sparingly. Avoid the flashy animations, such as text swooshing in from the side. They are useless and distracting.

Fonts

Use a sans serif font, such as Arial or Helvetica. Both are good albeit widely used fonts. (I most often use Helvetica.) For something different, try using Gill Sans or Optima. Serif fonts, like Times New Roman, contain small lines at the end of letter strokes, which you can see in this text. The lines, called serifs, guide the eye along the sentence when reading small type but they apparently hinder reading large display text.

Use at least 28–32 point for your main font size. You want people at the rear of the room to easily read your slides. If students are straining to read, then they cannot focus on the learning. If you have to reduce your text size to make an assertion sentence fit on two lines, or to fit more text on the slide, then reword the sentence or move some information to a second slide. I use 10–12 point font size for image credits.

Limit the number of fonts you use. You should use one but no more than two fonts. I use only one font, then use bold and color to emphasize key points (see below). If you use more than one font, you should ensure your fonts work well together. Typography is beyond the scope of this handout but a Google search will give you links to many websites dedicated to good typography.

Use boldface for your fonts. Bold text is easier to read from a distance. I do not always follow this advice because I will use bold text to highlight key words, as indicated in the next guideline.

Use spot color, boldface, or slightly larger text to emphasize key words on each slide. I often use non-bolded text.
Images

Use large images with good resolution. Use large images that fill most or all of the space of the slide. “Full-bleed” images that fill the entire slide (no visible white space) have the greatest visual impact. An image that is 1024 \times 768 pixels fills a PowerPoint slide. Use images that are at least 72 dots per inch (dpi). Higher resolution images have greater sharpness. Most images you find on the internet will be 72–300 dpi.

Do not stretch or compress images to fit. The picture will look terrible. You can resize images but maintain the proper proportions between length and width. If you only have access to small picture that is essential to your lecture, then use it as is (perhaps over a matching background color on the slide), or enlarge it slightly in software such as Photoshop. An internet search may reveal a similar, larger image that is just as effective. Very large images can be scaled and then cropped to fit.

Use the “Rule of Thirds”. This rule is widely used in photography and graphic design. Imagine a slide divided horizontally and vertically into thirds. The points where the thirds intersect are sometimes called the “power points”. These points add balance and dynamics in an image. Centered images feel static and motionless. Use the rule of thirds and the power points as guides to place your assertion statements and the visually important parts of your images. In the example at right, I placed the face of the animal on the upper left power point because humans naturally seek faces and eyes. The assertion statement (a due date for my students) is on the upper right third. The eye follows naturally from the face of the animal to the text. The Rule of Thirds is a general rule that is frequently broken by good graphic designers but pay attention to commercials and advertisements in magazines. Notice how often the visually important information is placed along one of the lines or at a power point.

Use non-copyrighted images or images that you have permission to use, such as images provided by the publisher of your textbook. Most of us are probably guilty of using images taken from the internet without checking for copyright. Both Wikipedia and Flickr are vast resources of Creative Common images that are freely and legal available for use in your presentations. The Creative Commons website provides a search engine\(^7\) that allows you to quickly search several different web sites, including Google Images, Wikimedia Commons, and Flickr for high quality images.

\(^7\)http://search.creativecommons.org
Give credit to the source. The internet is filled with pictures that you can use freely but please credit the photographer and source (e.g., Wikipedia, Flickr). Include a small statement on the slide giving credit to the author, which is usually required by the Creative Commons license. A typical format would be “Photo by The Photographer, Flickr, Creative Commons.” Align the textbox with the credit to the bottom right (or bottom left) of the slide, where it will be unobtrusive. I typically use 10–12 point font for the credit. Adjust the color of the text so that it is visible against the background or image. A medium grey text is visible against a white or black background, without being distracting. You can use a light fill in the textbox if the background image is very busy or colorful.

Color

Be aware of colorblind viewers. On average, about 8% of the men in your classroom have red-green colorblindness. Individuals that have red-green colorblindness can’t distinguish between red and green colors. If you use red and green to distinguish two pieces of evidence, the colorblind students will be unable to see the distinction. You can upload an image to an online tool, such as Vischeck, that will evaluate it for colorblind compatibility.

Use a consistent color scheme. A consistent color scheme adds cohesion to your lecture slides. Don’t use red as a text color one day because you were in a bad mood and blue the next day because you were feeling mellow. However, you can vary your color schemes to match your images, or you may want to build a color palette based on a particular image. Adobe’s Kuler website lets you build custom color palettes based on an image you upload. You can also choose among the many color schemes that others have built.

Be aware of the emotional and cultural significance of color. Humans often associate meaning with particular colors, and the meaning can change with context and culture. For example, in the U.S., we may associate red with danger or anger but red has an entirely different meaning around Valentine’s day and Christmas. Politically, the U.S. associates red with the Republican Party but much of the world associates red with socialism, social democracy and labor movements. Consider the context of your course, and use colors to make emotional connections or for cultural significance.

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8 Red-green colorblindness is a genetic trait that is common in males but rare in females.


10 http://kuler.adobe.com

11 Several web sites, such as http://webdesign.about.com/od/color/a/bl_colorculture.htm discuss the emotional and cultural significance of color.
Miscellaneous

**Keep the lights on.** The brightness helps keep students awake. Most projectors on campus are bright enough that students can easily read the slide and see the image with the room lights on. If your room permits, you can turn off the lights immediately over the screen but leave most of the room lights on.

**Use blank slides judiciously.** If you have finished a slide, but will continue to at length or initiating a discussion before the next slide, insert a blank slide that has a black background. When you finish the previous slide, switch to your blank slide. The screen will go dark and the students will focus on you. A slide that is still displayed on the screen is distracting.

**You can still use bullets.** Lists still have their uses but you should still lead with a complete assertion-style statement. As a rule, you should not use more than one level of bullets.

**Contact me with questions.** If you have questions about the workshop or slide design, I would be happy to help you any way I can.  
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