Creating Effective PowerPoint Presentations

Presentations in PowerPoint (& other software) are used to enhance learning by presenting information through the use of spoken words combined with the display of graphics (illustrations, charts, photos, graphs, animations & videos) and written words. The best presentations are designed to reduce extraneous distractions and allow the learners to focus their limited processing capacity on organizing and making sense of relevant material.

Presentation Structure

- Articulate the thesis of your talk (1-3 key ideas) and eliminate extraneous details.
- Use a hook or story to get the learners interested in the talk at the beginning.
- Provide advanced organizing information (e.g., an outline) to guide the learners.
- Structure the talk by -
  1. Telling the learners what you're going to tell them.
  2. Telling them.
  3. Then telling them what you told them.
- Remember: Less is More
  - Develop no more than 1 slide for each minute of the talk
  - Limit each slide to 1-2 points

Slide Design

Consistency: Use consistent fonts, colors, backgrounds, layout & transitions except when signaling important information.

Fonts:
- Selecting sans serif fonts (e.g., Arial, Comic Sans, Papyrus and Tahoma), which are easier to read than serif fonts (e.g., Times New Roman, Courier, Didot or Bookman).
  - Using indentations to structure text
- AVOIDING TEXT IN ALL CAPITAL LETTERS, AS IT IS HARD TO READ!
- Using at least 30 points for titles, 24 points for body text and 18 points for any other text on a slide.

Colors and Backgrounds:
- Use contrasting colors for your text and background.
  - White or Yellow text can be read on a dark background
  - Dark letters against a light background also work well.
  - Some combinations do not work and are difficult to see
- Avoid Red-on-Green because the color-blind cannot read it.
- Avoid image or multi-color backgrounds, which are difficult to read & distracting.

Transitions: Avoid transition between slides other than a simple fade, as they distract students’ attention from the essential material.

Text:
- Use text to highlight organization and to help learners focus on essential elements.
  - Minimize the use of text and omit needless words (see e.g., Strunk & White)
  - Place all labels near graphics as spatial continuity helps learners build connections.
  - Write out equations ONLY when the terms are salient to your main point and you will explain them.
Graphics & Visuals: Good graphics and images illustrate key points and help learners visualize data and the relationships between ideas.

- Add annotations & labels so that the meaning of a figure is communicated visually to complement your oral explanation.
- Enlarge and re-label figures so that they are easy to read.
- Avoid low-resolution images, which are difficult to see.
- Highlight key items in a table or figure through the use of colors, boxes and zoom to direct the audience’s view and to signal key points.
- Avoid irrelevant graphics as they can confuse learners and distract them from key points.
- When showing complex figures, use animation to assemble parts of your slide in stages.

Presentation Delivery

- Practice, practice & then practice more
- Explain, then show: Signal key points and highlight the organization of material before advancing to a new slide to help learners focus on essential material.
- Don’t read slides word-for-word, redundant presentations of information waste precious processing capacity.
- Assume all eyes are on a new slide as it goes up, pause before speaking when showing a new slide.
- Explain graphs carefully
- Listen carefully to each question, repeat it and then provide a composed answer.

References & Further Reading

- Classroom Communication & Public Speaking (From the Sheridan Center)
- Metacognitive and Aesthetic Design of Presentation Slides (PowerPoint) by Steve Semken (ASU) from the Science Education Resource Center at Carleton College.