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SUBJECT: A Cognitive Psychology Perspective

For the last 20 years PowerPoint has been the leading presentation software for all disciplines that do presentations. It has received scrutiny for how its default structure forms presentations and harms technical communication. But the new Assertion-Evidence (A-E) Slide Structure helps mitigate some of the common problems with PowerPoints default Structure and makes sure Cognitive Psychology principles are applied.

Multimedia Principles and common practice PowerPoint slides

Multimedia research has created a number of principles for instructional design that coincide with cognitive psychology. Following these principles help reduce extraneous information being pushed onto the audience and helps them learn more from the presentation. The key principles are:
- Individuals learn better when pictures and words are put alongside each other and not isolated from one another
- Audiences have improved comprehension when extraneous information is removed from the presentation
- Signaling, where learners benefit from presentations that highlight the organization of essential material
- Audiences learn better from graphics and narration than from graphics, narration, and online text

Because of the easy to use nature of PowerPoint its default features have led to certain things becoming common practice between different presentations. Over two thirds of slides analyzed the phrase headline specifies a general topic, and each bulleted item seems as important and subordinate to that overall topic. Short headlines do not benefit audiences because they lead to the presenter creating headlines that don't signal the audience to what the presentation is on or highlight the information being shown in any way.

Text is the default for presenting information on PowerPoint which leads to pictures and graphics not being used correctly or not at all. Of common practice slides 61% of professional, 42% of conference, and 61% of graduate slides had graphics on them. The use of graphics is not always

helpful when the graphic does not explain the information being presented on the slide but rather replicates or depicts the information already presented. Graphics can be a valuable tool to presenters when they use graphics that explain rather than repeat the content on the slide or they reiterate verbal information which encourages understanding.

Multimedia Principles and A-E slides

The A-E slide structure seeks to lower the risk of introducing unnecessary cognitive load to audiences. The A-E slide structure consists of a succinct headline that states the main assertion of the presentation, or the declaration of the slide. The assertion is supported by visual evidence like pictures, drawings, graphs, etc that serve to explain, organize, or interpret the headline.

A-E slide structure contains more images that promote improved comprehension and retention from the audience. Increased effectiveness occurs for a few reasons. First is the requirement of visual evidence in the body of the slide. Done through the replacement of the text in the slide body with a graphic that explains the assertion or main point of that slide. A-E closely follows multimedia learning principles and emphasises the quality and purpose of the images used.

A-E slide structure follows more closely to the multimedia principle of coherence. Because common practice slides have general phrase headlines that include more than the key information that is needed. A-E slides are more coherent because they remove extraneous information that is not needed and the headline instead states the slide's main assertion and allows the presenter to focus more on supporting the assertion rather than coming up with associated subtopics.

By following the Multimedia Principles and using the Assertion-Evidence slide structure presenters can create presentations that are more succinct and coherent for the audience. Which makes them easier to understand and lowers the cognitive load that is put onto the audience.

Attachments: "A Cognitive Psychology Perspective" November 2009.