Richard E. Mayer, a professor of educational psychology at the University of California, Santa Barbara. Mayer’s research interests include multimedia learning, such as determining the effect of illustrations and narration on how people learn. According to Mayer, if your goal is simply to present information, then whether or not the audience retains that information isn’t a high priority. But if your goal is to make sure that the audience remembers what you’ve said, then you need to design your multimedia presentation in a way that is consistent with that priority. PowerPoint, Mayer says, doesn’t work when it’s used to present information without regard for how people learn.

The following are five guidelines to improve the impact of your PowerPoint presentations, reduce information overload, and improve compatibility with people’s learning styles.

1. Use sentence headlines.

Slides with phrased titles like “Research Results” or “Materials and Methods” don’t adequately summarize the content of a slide or help the audience quickly grasp the main point. Atkinson advises that writing a complete sentence headline instead of using a phrase improves the audience’s ability to process the information on a slide. “It’s like reading a newspaper,” he says. “You decide which story you’re going to read based on the headline because the headline summarizes the story.” Headlines are written with a subject and a verb: for example, “Extra Electrons Are Key To Forming Ammonium Salt.”

Research by Michael Alley and colleagues at Pennsylvania State University supports Atkinson’s advice. They have found that using headlines in presentation slides significantly improves retention and recall among college students (Tech. Commun. 2006, 53, 225). This experiment took place in a large, lecture-based geosciences course. They used slides with traditionally phrased titles in two class sections and slides with succinct sentence headlines in two additional sections. “When asked to recall the main assertions of slides, the students in the sections taught with the sentence-headline slides had significantly higher recall,” according to the authors.

2. Storyboard your presentation.

Moviemakers use storyboards to help visualize scenes and identify potential film problems. It’s a process that can help create more interesting and compelling presentations too. Typically, people compose
presentations in the “Normal” computer-screen view, which focuses on just one slide at a time. Atkinson recommends reviewing your presentation frequently in the “Slide Sorter” view to see how well your presentation flows.

In his book, Atkinson uses the metaphor “the eye of the needle” to describe the limited capacity of people’s short-term memory to process new information. When you present more information than short-term memory can handle, the audience will only remember fragments. As a presenter, you can increase the amount of information the audience retains by decreasing the amount of extraneous information that appears on each slide and by seamlessly coordinating your visuals with your narration. By using the Slide Sorter, you can break your presentation into digestible portions by identifying and then editing slides that contain too much information. If you have more slides than your allotted presentation time allows, the Slide Sorter can help you decide how to narrow your focus.

“Start with a structure that engages your audience and lays out the map of information to follow,” Atkinson says.

3. Move text offscreen.

It’s tempting to fill the wide-open space of a PowerPoint slide with lots of text, but that’s exactly what you should not do. It’s too much information to fit through “the eye of the needle” and overpowers the audience.

“A slide is not a research paper,” Atkinson says. “They are two different mediums. The evidence shows that when you read the text that’s presented on the screen, you impair the audience’s ability to comprehend. People process what they read and what they hear at two different speeds.”

To reduce the visual load, Atkinson recommends moving the bulk of the text off the slide and using it as the narrative for your talk. If you do this by using the “Notes Page” view, you can plan what you want to say for each slide. Adding a graphic to the slide, which ties the headline and narration together, allows the audience to focus on what you’re saying because the main point of the slide should be clear.

Look at the screen and the paper as a team. When possible, have copies of your paper available to be read later, but the live presentation should distill the most important information for the audience.

4. Use pictures.

As the saying goes, “A picture is worth a thousand words.” Sometimes those thousand words all seem to show up on one slide. Admittedly, it’s easier to use bullet points on a slide, largely because they remind you of what you want to say. When you reduce the amount of information on one slide for the audience to digest, you’re left with a smaller amount of information to illustrate.

Atkinson says the slides and the narrative need to work together. “The spoken words are the backbone, and you guide understanding with images,” he says. “The world is visual. We’re shifting from predominantly presenting ideas in text to a visual-verbal way of communicating.”

5. Slash and trash.

If you have information that does not support the main topic of your presentation, get rid of it. “When you’re writing a paper, you’re immersed in facts, methodology, outcomes, and data,” Atkinson says. “You’ve spent so much time on the topic that you know it well. In a live presentation, you have to focus on your listeners and figure out the most relevant facts they may be interested in.” If you cut information, you can always add it back later.


“We told a simple story that explained the science in a way that the jurors understood,” he says. “The other side used a traditional PowerPoint approach with complex charts and graphs that went over the jurors’ heads. If you can’t explain things in a way that people understand, you’ve lost your ability to persuade them to adopt your ideas or change their mind.”

If filmmakers can communicate with narration and pictures and no text on the screen, so can anyone.”