



## Five Experts Dispute Edward Tufte on PowerPoint

By Cliff Atkinson

Although it might seem that Edward Tufte had the last word on PowerPoint with his essay *The Cognitive Style of PowerPoint*, it turns out a number of experts disagree with him, in some cases very strongly. Here is what Don Norman, Gene Zelazny, Bob Horn, Seth Godin, and Rich Mayer said in recent interviews at Sociable Media:

**Don Norman**, cofounder of the *Neilsen Norman Group* and author of the classic *The Design of Everyday Things* (full interview [here](#)):

"Tufte misses the point completely. His famous denunciation of the NASA slides, where he points out that critical information was buried, is not a denunciation of PowerPoint, as he claims. The point was buried because the presenters did not think it important. They were wrong, but it is always easier to find blame in hindsight than with foresight. The slides matched their understanding of the importance of the issues.

"Tufte is criticizing the symptom. Tufte has politicized this to benefit his seminars - but the correct culprit is the erroneous analysis of the tests, not the way the engineers decided to present it to their audience.

"Tufte is correct when he complains about misleading data and bad summarization that oversimplifies and may even omit important footnotes and qualifications about the data. Tufte is wrong when he confuses great depth of detail with a good talk.

"Tufte would overwhelm the talk audience with more data than can be assimilated in a talk. He doesn't seem to realize that there are really three different items involved here:

1. The notes the speaker will use (which should be seen only by the speaker).
2. The slides the audience will see.
3. Handouts that will be taken away for later study.

"A talk can NEVER present as much information as a written paper. Talks should be pointers to the important material. But neither the spoken talk nor the accompanying notes - PowerPoint or not - should be confused with or used for the real information."

**Bob Horn**, political scientist and Stanford scholar, and author of *Visual Language: Global Communication for the 21st Century* (full interview [here](#)):

"Tufte's monograph makes some good points but is also in places, confused, incoherent, and superficial. Here's my view on the key issues:

*"Bulleted lists.* He's correct about 'Bullet Outlines Dilute Thought.' It is difficult to show causal relationships in bullet lists. But this is not unique to PowerPoint. Dilution of causal thinking happens as much on paper as in PowerPoint. And overlooking causality is dangerous. However, this is not original to Tufte; it's Shaw, Brown, & Bromiley's point (whom he cites). The **original authors** whom he quotes explain the causality point better than Tufte.

*"Statistical information.* However, when Tufte talks about presenting statistical

information, we should all pay attention. He's better than many in this area (pp. 14-15 and 18-19 in the essay). But he somehow misses part of the point that many communication situations are not about analyzing the data, they are about communicating the results of an analysis and not simply showing the details of the analysis.

*"Too many words or not enough words?* And, of course, he's right about people putting too many words on their bullet slides and turning their backs to their audiences and reading them. But Tufte is somewhat muddleheaded about how much to put on a slide when he criticizes the example: 'Correlation is not causation' as being 'over abbreviated.' Tufte assumes that the speaker is not going to say anything along with presenting the slide, i.e. that the speaker is not going to say "Empirically observed covariation is a necessary but not sufficient condition for causality." He says, 'Many true statements are too long to fit on a PP slide, but this does not abbreviate the truth to make the words fit' (p. 4 of the essay). But of course, "Empirically observed covariation is a necessary but not sufficient condition for causality" can quite easily fit on a slide.

*"Hierarchy.* He's flat out mixed up about hierarchy. He is right about not having 4 to 6 levels of hierarchy on a single slide. But he tends to condemn the whole notion of hierarchy as 'medieval in its preoccupation.' Hierarchy is one of the major ways we manage complexity. And we shouldn't hide the levels of hierarchical analysis. But he's right about the specific case (the Boeing-NASA slides) as confusing in showing hierarchy.

*"Subheads.* He is really wrong when he suggests that you should use hardly any subheads in writing prose. Actually the opposite is the case. You should use an informative subhead for every paragraph. My principle has been: put a subhead on every paragraph. This enables your reader to scan and skip more easily and hence read more efficiently. And it enables many writers and presenters to think more clearly.

*"Different kinds of presentation.* Tufte completely ignores many different kinds of presentations. He seems to think all we do is analyze and present statistics! On the contrary. Among the presentation purposes that come immediately to mind are planning, overview, inspiration and motivation, explanation, and reporting. In all of these, PowerPoint can be useful. To my mind, it's not PowerPoint that is at fault, but the lack of skills in using it. Tufte's naiveté about this aspect, I would guess, comes from being an academic for most of his life and lacking much experience in business organizations.

*"Teaching metaphor.* Finally, he's right about the teaching metaphor for presentations: 'The core ideas of teaching - explanation, reasoning, finding things out, questioning, content, evidence, credible authority not patronizing authoritarianism - are contrary to the hierarchical market-pitch approach.'"

**Richard E. Mayer, Ph.D.,** professor of psychology at the University of California, Santa Barbara, named the most prolific researcher in the field of educational psychology, and author of 18 books and more than 250 articles and chapters (full interview [here](#)):

"Edward Tufte has done much to draw attention to the design of effective graphics. However, I am not sure what is meant by the assertion that "PowerPoint is rarely a good method." If this statement means that PowerPoint is often misused, I wholeheartedly agree. However, I do not think it makes sense to refer to PowerPoint as a method. Instead...PowerPoint is a medium that can be used effectively — that is, with effective design methods — or ineffectively, that is with ineffective design methods. We would not necessarily say that books are rarely a good method, because books can be designed using effective or ineffective methods. In my opinion, the same principle applies to PowerPoint."

**Gene Zelazny,** author of the classic, **Say It With Charts,** and its sequel, **Say It With Presentations;** director of visual communications for a major consulting firm since 1961; and a presenter at all of the major business schools around the world (full interview [here](#)):

"With incredible and due respect to Edward Tufte, and I mean incredible and due respect for his books, his role as a teacher, his ideas, I disagree with his criticisms of PowerPoint. Going back some 45 years, and having lived through the eras of producing

visuals with pencils and varityping machines and India ink and ruling pens and protractors and slide rules and zip-a-tone and Dr. Martin's washes and speedball pens and ..., PowerPoint is one of the most advanced and sophisticated production tool on the market, which deserves a standing ovation.

"One area Edward is arguing against is its misuse and abuse in terms of the animations that have been built in. Here I'd have to agree with him. As I state in one of my 10 commandments of onscreen presentations: "Thou shalt not use animations unless it helps to make a point." Otherwise, it runs the risk of the audience wondering if what they're paying for the presentation is being wasted on being gimmicky, as well as running the risk of appearing to speak below the level of intelligence of the audience. That said however, it doesn't mean we should abolish the tool as Edward would have us do. It's like blaming cars for the accidents that drivers cause."

**Seth Godin**, author of five bestselling books and recently chosen as one of "21 Speakers for the Next Century" by Successful Meetings (full interview [here](#)):

"Edward and I disagree. He thinks people are a lot smarter than I do. He likes packing a ton of information into a slide and letting people tease it out (same as the Napoleon graph in his first book). I go in the opposite direction. If you can get the info across at first glance, you win. I'm in awe of his marketing abilities, though!"

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*Cliff Atkinson is an independent management consultant who helps organizations solve problems related to PowerPoint. Visit his website at [www.sociablemedia.com](http://www.sociablemedia.com), read more articles and interviews [here](#), or email him [here](#).*

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