
Heed the Pleas for Better Presentations

The work that engineers, scientists, and technical experts perform changes the world. Part of that process is technical communication, and it comes in all forms, including presentations. Some talks are formal, some are casual. To aid their complex work, subject matter experts use slides as scaffolding to support their words and concepts. However, too often, when speakers use slides, it becomes a dismal affair. With an excess of bullets, poor audience analysis, and the tendency to use slides as teleprompters, speakers have adopted numerous bad habits over the last 20 years. Unfortunately, the technical fields have not escaped the pervasive tendency to abuse audiences with slides. In this chapter, we will introduce proven alternatives.

Know the enemy

We hear it from industry, government, pockets of academia, and even the very creators of slide templates themselves: slides can cause major problems for presenters and audiences alike. It is too bad, really, because there is so much potential when slideware is used with purpose and toward targeted outcomes. If optimized outcomes are desired, then speakers need to maximize the effectiveness of presentation software tools.

Slide abuse appears in myriad forms; there are slides as teleprompters, slides as scripts, slides as data dumps, and slides as bullet boxes. The purpose for slides as audience aids is practically forgotten. Instead, the use of slides has become more of an unexamined ritual rather than a fully conceived information vehicle. See Figure 1.1 for a sample of a typical, less-than-optimal slide design. On the other hand, see how the same slide, reconfigured in Figure 1.2, shows a more engaging way to communicate the same material.

The depths of the problems with poor slide design are widely reported. Of late, it is difficult to browse a blog, attend a conference, or read a professional publication without seeing some discussion of how to improve presentation skills and slide design mastery. The creators of Microsoft's PowerPoint program have commented on the rampant misuse of their creation by otherwise well-intentioned professionals [1]; top military commanders have called PowerPoint "the enemy" [2]; government agencies and boards bemoan PowerPoint engineering [3]; at least one information design guru has compared bad slides' dominance of the presentation field to Stalin's totalitarian regime [4]. At universities, students lament the laundry lists of bulleted ideas that their professors present in lecture, too often skipping steps and eschewing logical progressions of thought [5]. A decade-long

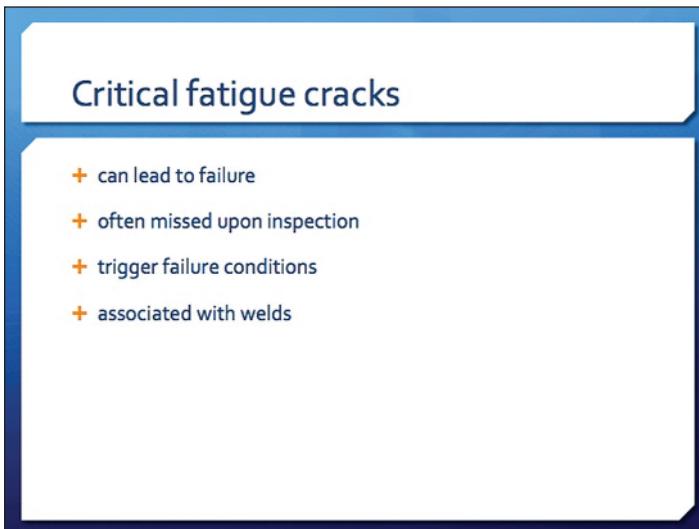


FIGURE 1.1: Traditional slides fail.

Slides that present nothing more than a series of bullets, such as this one, often fail because they do not engage the audience. This design approach does not incorporate what experts know about the ways that humans learn.



FIGURE 1.2: New practices work better. Deploy complete thoughts, high-value visuals, and archival notes. Doing so will move you toward creating technical talks that can be enhanced by slides rather than hobbled by them.

mission called the “Annoying PowerPoint Survey” consistently documents the pain felt by audiences [6]. Blogs and other media continue the conversations daily as slide abuse persists.

All too often, presenters and their audiences disparage the slide software itself as the problem. There is truth to that sentiment; no presentation tool is without its flaws. But poor presentations do not begin with imperfect presentation software. It is the unexamined patterns of communication that creates the problem. Slides have wonderful potential to reach people using all learning styles [7], but presenters too often kill that potential with a static, text-heavy approach.

Within the engineering, scientific, and technical fields, it is lamentable that many see communication as subordinate to engineering or scientific work, that communicating the details or results of the work is of lesser importance than the technical work itself. The engineers we work with spend 20–80% of their time at work engrossed in communication efforts, and those communication skills must be honed. Think of it this way: most of the work of building a bridge is the communication *about* the bridge. Much less time is actually spent building the structure. Communication *about* engineering and science is the bulk of the work in these fields. The sheer magnitude and importance of technical communication means that we must always strive for best practices.

While facts are immutable, the way we communicate them is never quite objective. Technical work, as much as anyone desires it to be “objective,” is subject to human perceptions. Once we acknowledge that communication is key and that it is always framed by subjective lenses, we understand that engineering and technical communication presentations need to be as clear, elegant, concise, and accurate as the work they give voice to. Applying best practices to presentations should be as much a part of the work output as anything else.

Be an agent of change

Our approach to shifting practices for engineering, scientific, or technical presentations is simple, and it looks like this:

- Revisit presentation assumptions.
- Write sentence headers.
- Use targeted visuals.
- Archive details for future use.
- Keep looking forward.

Call a meeting instead of summoning a slide deck

Because presentations have become cornerstones for information dispersal in engineering, technical, and scientific realms (including business, research, government, and academia), presenters must find the best way possible to push that information to key players. When the audience becomes dissatisfied or bored with how information is conveyed, a barrier to success forms. We need to help listeners receive crucial technical information in more efficient, relevant, and applicable ways.

Current organizational cultures equate presentations and meetings with the creation of a set of slides. When a meeting is called, participants expect both a speaker and a slide deck. Probably all of us have heard, “I can’t make the meeting. Just send me your slides.” Whether the omnipresent use of slides as a work-related communication is good or bad, we will not argue here. In truth, slides have become an organizational norm. And if the speaker decides to conform to that expectation, the information dispersal must be as accurate, detailed, efficient, and helpful as possible.

At the same time, at the core of many technical fields is an ardent desire to make everything quicker, better, and cheaper. This demand applies to the gizmos, machines, processes, research, and materials that technical professionals produce; it also applies to the communication efforts used to push deliverables out the door. It is time to find a better way to turn information into action.

Destroy the decks of drudgery

Many of us in the technical fields have borne witness to thousands of slides that contain one word at the top and a parade of bullets below. These “decks of drudgery,” as one engineering colleague named them, are the bane of the working world (Figure 1.3). Of course, such slides seem perfectly reasonable and useful to the speaker, because the speaker either wants a teleprompter or does not understand the damage being done to the technical content [8].

However, this approach simply fails for the audience. The speaker may have thought that the slides’ information was perfectly organized; however, to the audience, the patterns were not so obvious. The speaker fills the screen with fragmented pieces of complex technical information, which are nothing more than fancy sticky notes projected on a large screen. This fails as an information vehicle, and it fails as a communication strategy. The audience deserves better.

A person would find it hard to unearth an organization or a company that is not looking to identify “best practices” to enhance workflow, streamline production,



FIGURE 1.3: A deck of drudgery alienates the audience. The familiar bullet-laden slide deck is burdensome to the audience and a crutch for the speaker. Slide decks that look like this are nothing but a box of mind-numbing bullets. Better practices move a technical communicator toward presentation skills that engage and inform.

increase productivity, and/or develop good knowledge-exchange systems. To make technical presentations better, the best problem-solving techniques need to be applied to current presentation practices in order to find better ways to reach colleagues, coworkers, management, clients, and the public.

Learn communication lessons from past tragedies

It is not too often that poor technical information practices lead to death. But sometimes they do. At those moments, once the shock and grief for human loss subsides, organizations need to pause and examine internal practices from every angle. The Columbia Space Shuttle explosion had this impact in multiple disciplines, including presentation strategies; more than one person has linked poor slide design to the Columbia deaths [4].

In its review of the Columbia disaster, the Columbia Accident Investigation Board’s report [3] provided perhaps the best caution yet for technical professionals who abuse slides as information vehicles. The Board cited the culture of “PowerPoint engineering” as a failure of engineers and technicians to do their job properly. The panel examined the NASA engineers’ and managers’ failure to communicate the pending problems on the Columbia disaster and reported this:

PowerPoint (and similar products by other vendors), as a method to provide talking points and present limited data to assembled groups, has its place in the engineering community; however, these presentations should never be allowed to replace or even supplement, formal documentation.[3]

Technical professionals must heed such warnings to ensure that the substance behind their reasoning is clear, cohesive, and well documented. Never assume that slides can do the heavy lifting that requires comprehensive technical reports. We address this more in Chapter 10.

An unfortunate triangulation of workplace constraints including time, business culture, and management expectations often requires engineers and other technical professionals to submit their work via slides. There seems to be no end in sight for relying on slides within the engineering, technological, or scientific fields; slides must often serve as fully functioning communication vehicles. As such, practitioners must make a concerted effort to examine slide production practices and determine what can be improved.

It takes true effort to accomplish what amounts to a cultural change regarding slide use within the technical fields. Too often, the old habits and patterns of using slides within these organizations have gone unquestioned. And while it is uncomfortable to give and take constructive criticism, it is imperative that the communication is as strong as the technical work.

This book addresses the ways in which presenters can alter their slide design habits and traditions to better suit their engineering, technical, and scientific audiences while aligning strongly with information dispersal needs and constraints. We will provide many examples that we hope inspire change—or at least conversation.

Keep in mind that the examples we provide are designed to foster creative thinking toward an individualized solution and that the techniques we describe always need to be tailored to the content, the organization, the goal, and the audience at hand. Our goal is to help presenters find techniques that will help them remember their audience and communicate the content appropriately.

From the Trenches

While working as a product/process development engineer, a colleague wrote to us with this assessment of a recent training event at his place of work.

I attended a weeklong training seminar this past October that included daily presentations by the “experts” of various processes. The following points are a summary of one of the presentations as well as some of the things that were going through my head:

- Presentation length was approximately 15 slides, duration was approximately 2.5 hours.
- Approximately 500 words per slide, font size = 14, single spaced.
- Zero graphics.
- Thoughts: *Is this a joke? Are we secretly being tested for our patience?*
- Presenter read the slides to the audience, which consisted of [the] “Top Engineering Team” verbatim while following along the words with a laser pointer.
- Monotone voice, zero interaction with the audience, and no eye contact or pauses for discussion.
- Thoughts: *If my boss’s boss wasn’t sponsoring this training, I would walk out. I seriously am going to fall asleep. Why didn’t this guy just hand everyone a print out and tell us to read it quietly to ourselves? Does this guy really think that we cannot read?*

As you can see from this summary, the presentation was horrible. I hope to never give a presentation to an audience who is wondering if the whole thing is secretly a joke.

Confront conventional poor practices

We have spent years working with practicing professional engineers and technical experts in all facets of industry. As well, we have extensive experience teaching undergraduate engineering, business, technical, and scientific communication. We have seen everything that can go wrong with presentations. Certainly, some people—professionals and students alike—lack polish in their stage and public speaking skills. And everyone has bad days. But as we witnessed hundreds of talks, we discovered that the problem all too often stemmed from how speakers were interacting with their slides and notes. The slides had become a crutch—and a rickety one at that.

But how did these bad habits form? Why did slides devolve from a tool for visualization into a parade of fragmented thoughts delineated by bullets? Theories abound. We asked professional engineers, technical experts, students, faculty, consultants, and others about their poor slides, and they responded with a variety of justifications as to why they used bullets and text-heavy slides during their talks.

- I need to have everything out there so they know I did the work.
- I was told that everything had to be in the slides.
- This is technical and complex. I have to spell it out for everyone.
- Isn't this the way you do it?
- Since this is the only place they will hear the details, I have to have everything in the slides.
- This is how we do it at my workplace.
- The template tells me to use bullets.
- Everyone in my field does it this way.
- My manager likes it this way.
- This is what my audience expects.

Indeed, slides have been used as substitutes for longer technical reports, recommendation reports, training pieces, process logs, research findings, and the like (the very complaint voiced by the Columbia Accident Investigation Board). Although many of the presenters we spoke with were initially under the impression that the audience (the boss, the manager, the clients, the instructor) wanted “everything in the slides,” when we challenged those presenters to use the alternative techniques described in this book for their presentations, the audiences not only accepted the approach but complimented them on the new and better techniques. Remember, audiences may not know what they need or want until they see it in action.

Consider slides as a two-part deliverable

Remember this: a live presentation is an opportunity. Maybe it is held in a room with colleagues all around a table. Maybe the talk happens via Web conference. No matter the venue, the incredible effort, time, and cost involved in gathering people in real time should not be squandered with the rote reading of slides that could just as well have been sent out for reading and comment asynchronously. The return on investment needs to rise for presentation activities.

The first step is to realize that presentation slides must function in two distinct ways and they often have two lives. The first life is the actual presentation with an audience (whether in person or via Web/phone conference). Satisfy your live audience by using that precious presentation time to actually create new knowledge instead of merely throwing around information. If the presentation does



nothing more than list information that your audience could read in the comfort of an office, then the return on investment for their time will be minimal.

Instead, maximize that return by harnessing the opportunity that comes from gathering people together for discussion and idea sharing; do this by creating slides that support interaction, discussion, comprehension, and long-term retention of ideas. See Chapters 3–9 for ideas on how to start this transformation.



The second life of a slide deck lies with its value as an archival legacy file. A slide deck should have the potential to be referenced, reviewed, and potentially reused by others for future presentations or information gathering (see Chapters 10 and 11). The notes that accompany the slides must provide instructions for that reuse and reference. They may contain items such as meeting notes, citations, details on data sets, specifications, customer requirements, or even a detailed script for another presenter to follow.

There are other elements that could form part of a presentation’s life cycle, such as the brainstorming and planning, which contribute to how a professional vets information internally. But the focus of this book is on the making of the slide deck that will support your technical work.

Implement your own continuous improvement

In this era of unprecedented technological integration, our technically trained audiences often expect speakers to use the best that multimedia software and hardware have to offer. Perhaps the speaker and audience are all in a room together. But just as likely, team members are witnessing a presentation via Web conference where the speaker is just a voice and the slides. That said, our *responsibility* as presenters must focus, first, on ensuring that the tools we use do not overshadow purpose. While we explore various technology options that speakers currently use to supplement or facilitate aspects of their presentations, we will always emphasize meeting the audience’s needs. The tools are secondary.

Therefore, we aim for this book to invite readers to critique their current practices but, more importantly, to make better choices in their own preparations that allow them to intelligently envision, design, deliver, and archive outstanding presentations. Each time presenters go to work, they have an opportunity to change practices, just a little bit, toward a communication structure that reflects the dynamic, forward-looking organizations that they represent.

Let us get started.

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