Presentation Myths

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This article offers some advice on how to give a presentation, primarily by describing common problems (myths). We hope you will find it is easy to read, and that it will give you some ideas on improving your own presentations.

KEY WORDS: Effective presentation; Multimedia; Slides; Transparencies; Visual aids.

1. INTRODUCTION

The American Statistical Association (ASA) conducts an exit survey at each of their annual meetings. The most common complaint elicited by the survey deals with the quality of the presentations. This response may be due, in part, to the fact that one bad talk can easily overshadow, in one's memory, five good ones. To address these complaints the ASA Committee on Meetings decided that a "new" and "modern" article on statistical presentations was needed.

Our first reaction to this request was to simply take the Freeman, Gonzalez, Hoaglin, and Kilss (1983) article, place our names on it, and stamp it with 1996. The material contained there is as relevant today as it was in 1983, and we highly recommend it. However, because we both take plagiarism rather seriously, we decided to try to write something new about presentations, in the hope that it would get you thinking about your own presenting skills.

For whom is this article written? It is not just for those people who give the talks that generate the negative comments on ASA's exit survey, although we all wish they would read it. Presentation skills are something that everyone can improve. Can you keep the audience awake? Do they remember anything you say? Do they gain respect for the work you present?

We come from the two ends of the spectrum when it comes to available technology for preparing materials. One of us is from a rather low-tech academic environment, and the other from a high-tech research and development environment. What brought us together to write this article is our common passion for captivating an audience. We believe that visual aids are useful, but the key to success is the oral delivery of the material.

Why should you read this article? It might make you laugh. It might make you mad. It might give you some new ideas. Or, it might just make you think about what you like and dislike about your own and others' presentation styles.

In this article we are not going to step you through the usual "tell them what you are going to tell them, then tell them, and tell them what you told them." The works in the References section contain the more technical advice on how to give a presentation. They also contain conflicting "guidelines" on presentations, to which we will add some of our own. You can take the approach of contemporary psychology and treat these guidelines as suggestions, not hard and fast policy. Pick and choose what meets your own personal style, but please do avoid the common pitfalls.

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2. COMMON PRESENTATION MYTHS

After a recent ASA meeting, we solicited suggestions for points that should be made in this article. We ended up with a long list of common presentation techniques that impede, rather than facilitate, communication with the audience. We like to call these myths. Rather than cover all the suggestions here, we have chosen to discuss a few of our favorites.

Myth 1: Presentations Require a Magic Number of Visual Aids

Who has not been asked the question before a presentation, "How many slides do you have?" That question is as relevant as the student who asks how many questions will be on the final exam. This is because some visual aids require 5 seconds of explanation, and some 5 minutes! (Throughout this section you should treat the words visual aid, slide, and transparency synonymously.)

Of course, we have all seen the 5-minute slide that is presented in 5 seconds. A personal favorite is a transparency full of mathematical detail that the presenter clearly does not have time to cover, yet feels compelled to flash by the audience, perhaps as vindication that he or she did, in fact, prove a result. Keep in mind that audiences are usually fairly trusting folks. If you said you proved it and it was messy, they will usually believe you. Prepare your detailed slide, but save it to help answer questions that may arise. (And then only show it if the question really arises!)

Myth 2: The Audience Cannot Read

How many of us are guilty of reading materials to the audience? It is a skill we learned in primary school, and many of us refuse to abandon this oral style. Displaying a script on visual aids buys us security when we present because we no longer have to worry about what to say—we can stay rather anonymous during our presentation by lurking around the overhead projector. However, it is a boring and frequently insulting method of presentation.

There is nothing wrong with using an outline or note cards when you give your talk, but there is no need to share this in written form with the audience. Unless you are an expert actor, you should talk, not read, to the audience. Put things into your own words. Make the sentences natural. Your job is to captivate and hold the audience's attention on you and your ideas, not your visual aids. Visual aids

should be used to highlight key ideas, so the material should be kept brief. You do not need to have so much material on the slide that it is understood without explanation. The slide's job is to focus the audience on a point—your job is to explain the point.

Myth 3: Slides are Preferred to Overhead Transparencies

Many professional-looking presentations are done with 35 mm slides. A slide can be focused precisely and changed quickly. This can be effective for certain kinds of material, including high-resolution images. However, a serious problem with slides is that they require a darkened room in order to be seen. Unfortunately, a dark room reminds people of naptime—it puts people to sleep, and neither allows the audience to see you nor allows you to see the audience.

On the other hand, overhead transparencies are usually bright enough to be seen when the room is well lit. One of the most powerful signals to a speaker is the way the people in the audience are responding to your talk; you can change things dynamically based on that. Do people look puzzled? Slow down and explain more. Are they bored? Get through what you are doing, and go on to something that may be more interesting.

This same problem with dark rooms is shared with many of the high-tech video/computer displays. Unless you are giving a live demonstration or need to show animations or other dynamically changing views, do not use on-line computer or video displays.

Myth 4: Handwritten/Computer-Generated Transparencies are Preferable

Legible visual aids are preferable, whether they are hand-created or electronically generated. Some people argue that it takes too long to electronically generate materials, so one should hand write them. We have colleagues who, in recent years, have only used a handwriting tool to sign their names. We shudder to think what their presentation materials would look like when handwritten.

How you prepare your materials is a personal preference. However, your choice of visual aids should be based on what will result in the most useful and effective set of materials to assist you in your presentation, not what is easiest or quickest.

The majority of statistical presentations use transparencies. The cost of blank transparencies has greatly diminished over recent years so there is little motivation to reuse them. Everyone can now use permanent ink that is guaranteed not to disappear halfway through the discussion.

Some of the best overheads are those that are handwritten. They allow lots of freedom of color, character size, style, etc. Unfortunately, some of the worst overheads are also those that are handwritten—illegible, sloppy, without advance preparation. It is up to you to decide what to do. If you are among the few who can prepare truly exceptional overheads by hand, please continue to do so. It is always a treat to see real personal expression. On the other hand, if your handwritten overheads are not really great (and you should be able to tell), you would do better to typeset them.

Myth 5: Tabulated Data are Informative

Unless you are showing just a handful of numbers, why use tables at all? If there is an important message embedded in a table, surely there is a graphical display that will communicate it more effectively. Aside from John Tukey, it is unlikely that there will be people in the audience who can carry out an exploratory analysis of the tabulated data while they are being projected!

If you insist on using tables, make sure they are readable from the very back of the room, regardless of the room size. Explain carefully what is in the table. Think about whether the entire table is really necessary. Remember that the audience will believe you when you say you studied 1,357 cases, so you may only need to focus their attention on the five best.

Myth 6: Graphical Displays are Obvious

There is nothing more frustrating than having someone claim their graphical display clearly makes their point, when you do not have a clue what has been graphed. Graphs, like tables, need to be readable from the back of the room. This means the entire display needs to fit on the screen, and the axes, symbols, and legends should be large enough to be clearly read. Because your entire audience may not be as graphically cognizant as you, it is important to describe what is being displayed, and then say what obvious patterns are exhibited.

Myth 7: Everyone Knows My Problem is Important

We have already commented that audiences tend to be reasonably trusting folks. This does not imply that they are always imaginative or telepathic. You may think that because they are in your audience, they are interested in your problem. Do not overestimate your audience's interest level—some of them are simply waiting for the presentation after yours! So, take the opportunity to enlighten and educate the audience as to why yours is an important problem. Encourage them to quit reading their programs and listen to you. You will not offend those who already believe the problem is important; rather, you will strengthen their conviction. (This is the TV evangelist approach: believers become entranced, and channel surfers hesitate for a moment). If there was ever a time and place to show pride in what you have done, it is during your presentation. A little humility, however, is often appreciated during the question and discussion period.

Myth 8: The Session Chair Will Not Cut Me Off

Some people think their problems are so important that they deserve an extra 5 minutes of presentation time. Others react by showing their final 25 slides in the last minute of the presentation, which usually makes the audience nauseous. To be fair to the remaining speakers, the session chair *will* cut you off at your allotted time. Even if that does not happen, the audience is likely to know that you are exceeding the time limit, and may react negatively. The timing of presentations does not always go as one has planned. To save yourself the embarrassment of being cut off and not

getting to the punch line of your talk, plan ahead for places where material can be left out to shorten your presentation. Save time for questions. The audience often appreciates the chance to ask exactly what is on their minds, even more than hearing the rest of your material. This exchange is frequently the most valuable portion of your presentation.

Myth 9: The Paper Hiding Part of the Transparency Will Stay on the Overhead Projector

What are you hiding? Why are we not allowed to see it? It is slipping, it is slipping, ... Why hide anything? If you do not want the audience to see something, put it on another transparency (they are not expensive)! Hiding part of the material on a transparency seems to be a mathematical/statistical phenomenon. The goal is to build up to some point, one step at a time. This can be an effective presentation mode. However, when the paper slips off and the punch line appears 5 minutes early, all is lost.

There is nothing wrong with repeating material on subsequent transparencies to build up to your point. Or, as a simple alternative, cut the single transparency up and simply display it piece by piece. In these ways you are assured that only the material you want to show at any given time will be seen.

Myth 10: A Vibrating Display Gets Their Attention

Not knowing what else to do with our hands while we speak, it is natural to begin to point at the material we present. The question then becomes, Where do we point? For those who insist on touching the transparency when they point, they quickly (or perhaps not so quickly) realize that when they touch their transparency, the projected display moves! It is never enough for a speaker to test this phenomenon just once during a presentation. The speaker usually needs to repeat the process several times, looking surprised each time the material on the screen jumps. The high-tech version of this is carried out with a laser pointer. Very small hand movements are magnified to form an impressive jumping red dot on the screen.

One way to avoid the vibrating display problem is to step away from the projector, to the side of the screen, and point directly on the screen with a pointer. This will also help keep you from blocking the view of at least half the room by standing next to the projector, directly in front of the screen. Another good alternative is a colored, transparent pointer that can be positioned on the overhead itself.

3. FUTURE PRESENTATIONS

It seems appropriate to speculate a bit about what the future may hold for statistical presentations. For many, computer-generated transparencies or slides may be the future. For others, a multimedia approach to presentations is inevitable. Undoubtedly, there will still be presentations that use overhead or slide projectors.

There are already a handful of presentations at ASA meetings each year that involve interactive computer displays and video displays. These presentations, when well put together, hold the audience's attention, and can create a lasting impression. Sometimes it is due to the different media used for the presentation, and other times due to the material presented. Research that involves hypermedia, dynamic graphics, and interactive displays is nearly impossible to discuss in the static mode of overhead transparencies. We have not even begun to feel the impact of the World Wide Web (WWW) on our statistical presentations. We are finding the use of Hyper-Text Markup Language and the creation of WWW applications becoming more and more commonplace. Presenters will likely find it too hard to demonstrate this work via an overhead presentation. It is also becoming easier to produce nice color displays for a computer projection system than to produce color overhead slides. All of this means that multimedia presentations are clearly on the horizon for a growing number of presenters.

Multimedia presentations do not come without some presentation problems. We will discuss but a few of these. One problem we touched on earlier is the "dark room." It is necessary to darken the room when using video and computer projections. This can lead to a sleepy audience if the display drags or is of poor quality. When a presentation involves several pieces of equipment, one needs to have a back-up plan for when the equipment fails or is incompatible with the presenters materials. Getting a spare light bulb for an overhead or slide projector is no longer a major problem—finding a spare projection system is another story. The presenter needs to be prepared to deliver a static presentation.

We need to approach our future presentation modes with a bit of caution. Keep in mind that it is not unusual for a 1-minute, high-tech computer graphics film clip to be the result of a year's worth of effort. For statistical work we may not be willing to put that amount of work into a fancy display. So, will this lead to yet a new generation of nerve-racking poor presentations? Perhaps not, if everyone remembers that no amount of technology will make up for a poor oral delivery.

4. CONCLUSIONS

The most important ingredient in a successful presentation is a well-thought-out and rehearsed oral delivery. As you may have gathered, we would argue that humor is also important, but that is a function of personal style. Carefully planned and designed visual aids can work to enhance the presentation but do not serve as a substitute for a well-practiced delivery. When you are speaking to a broad audience, as is the case at ASA meetings, it is important to strike a balance between the presentation of theoretical results and their corresponding applications. It is always useful to test out your presentation on someone. Practice with your students and colleagues. Give credit where credit is due to coworkers and collaborators. In conclusion:

- Remember that oral delivery will make *or* break your presentation.
- Practice *and* time your presentation.
- Do not overestimate the audience's interest or background level.
- Focus attention on yourself, *not* on your visual aids or visual media.

- Carefully plan and design all visual aids and visual media.
- Use graphical displays in lieu of tabular displays.
- Make visual aids and visual media legible to the entire room.
- Attend the workshop on presentations given each year at the Joint Statistical Meetings.
- Do not block the view of the screen.
- If all else fails, try humor.

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