

# Giving an Effective Presentation

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## Introduction

Several articles in the statistical literature contain tips on giving an effective statistical presentation. An excellent recent example, by Becker and Keller-McNulty, appears in *The American Statistician* (1996, pages 112-115). So why did I agree to attempt another essay on this topic, for speakers intending to present at IBC2000? In part, because my experience at recent statistical meetings strongly suggests that most of us could benefit from a reminder of the common pitfalls that can mar a presentation. While I have been lucky to attend some excellent talks at recent meetings, these have not been in the majority. None of the following advice is novel, but I hope that a short review of common presentation mistakes may be helpful. If there is one essential message, it can be

summarized in this exhortation to speakers — “always be considerate of your audience”.

To avoid a monotonous litany of “do’s and don’ts”, I have tried to inject some humor into the following remarks. This does not mean that I think the generally low prevailing standard of statistical presentations is not a serious matter. On the contrary, I believe effective presentation is one of the most important challenges facing any statistician. Until clear communication becomes a top priority, we cannot hope to achieve the degree of influence, or make the type of effective contribution, that society needs from our profession.

Today’s airport bookshop is typically stocked with a plethora of titles along

the lines of “Jesse Ventura’s eight secrets for charismatic communication” or “Darth Vader’s seven steps to effective leadership”. It appears that the modern business professional expects advice to be packaged in snappy bite-sized nuggets, suitable for digestion on a plane. Accordingly, this essay follows the organizational structure: “Ten tips for a truly dreadful presentation”. Those who aspire to the status of truly dreadful presenter (abbreviated as TDP from here on) should try to implement as many of these tips as possible. Speakers interested in improving the quality of their presentations, on the other hand, would be better served by rigorous avoidance of the types of misbehavior described in this essay.

I have grouped these into categories, only one of which is specific to statistical pre-

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sentations. For concreteness, illustrations below assume use of overhead transparencies; however, most points apply equally to other types of visual aids.

## Ten tips for a truly dreadful presentation

### Sensory deprivation

#### 1. *Small is beautiful*

A key component of this technique is information overload. Here, the defining characteristic is to cram as many words/numbers/symbols onto each overhead as possible. Audience members will be delighted by the wealth of detail and the resulting chance to practice their speed-reading skills. Handwritten overheads should aspire to a cramped, wobbly, style that evokes the drama of an airplane flying through extreme turbulence. This effect is harder to achieve using presentation software, but much can be accomplished by creative use of novel font styles and tiny font sizes.

#### 2. *Confusion through color*

For handwritten overheads, the optimal choice of pen color is clearly yellow, as it can generally be relied on to yield text which is not just unreadable, but also virtually invisible. Other color options may achieve a similar effect, though some experimentation may be needed to find the best combination (light and pastel shades hold the most promise). If forced to use dark-colored pens when preparing overheads, the experienced TDP will know to choose non-waterproof pens, sometimes known as "smudgies". The resulting combination of densely written material, ambient humidity and/or perspiration during presentation virtually guarantees enhanced illegibility through smudging. Initially, this option might seem to be available only for handwritten overheads. However, trial and error should reveal the potential of one's software package to generate color combinations for which distinguishing text from background is an impossibility. No self-respecting TDP will leave this potential unrealized.

#### 3. *The human shield*

Occasionally, one may be provided with clear, legible presentation aids, prepared by someone else. Without some neutralizing tactic, this carries a genuine risk of

conveying information clearly to the audience. A simple countermeasure in this situation is the "human shield" approach, wherein the presenter blocks all visibility by standing directly in front of the projector while speaking. Static implementation of this tactic can be challenging, as it may be hard to ignore the progressively louder bleats of protest from the audience. A preferred alternative is thus the so-called "random Wimbledon" variation, in which the speaker darts randomly from one blocking position to another. This has the added benefit of keeping audience members alert, while giving a good calisthenic workout to their neck muscles.

### Audience alienation

#### 4. *Cultural insensitivity*

Opening with a sexist joke can usually be relied on to alienate most of the audience. An alternative tactic is the consistent use of gendered language to per-

petuate some demeaning stereotype of women's roles and abilities; for further discussion, see the 1997 article by Hammer (*The American Statistician*, pages 13-18). "Humor" that reinforces some other negative cultural stereotype or ethnic prejudice may be effective in offending remaining audience members.

#### 5. *Avoid eye contact*

Making eye contact with individual audience members is discouraged for several reasons. It could be taken as indicating a genuine desire to communicate. Worse, it could provide a real-time check on audience reaction to the presentation, which, if acted upon, could slow progress through the remaining overheads. Finally, it is particularly critical to avoid eye contact with the session chair, who may be actively trying to put a premature end to your presentation.

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### 6. *The illiterate audience*

A tactic which never fails to amuse is to present certain overheads in a manner which conveys the obvious belief that members of the audience can't read. Typically, this calls for the speaker to read aloud each and every word of text shown overhead, at an excruciatingly slow pace, adopting the tone of a particularly conscientious kindergarten teacher. Clearly, the audience irritation potential of this tactic is quite wasted if it is deployed simultaneously with the human shield technique described above. Judicious alternation of the two methods, on the other hand, may have the potential for a superadditive irritant effect.

### Presentation style

#### 7. *Keep them on their toes*

- Give no context, background, or motivation for the problem you discuss. You don't want to deprive your audience of the fun of trying to puzzle it out.

- Similarly, provide no clues about the relative importance of different parts of your talk. Alert listeners should be able to distinguish the important from the trivial without your help.

- Waste no time on 'signposting' devices such as a presentation outline, or subdivision of your talk into sections. They'll know you have finished when you sit down.

- Adopt a variable pacing strategy, alternating between vastly accelerated and excruciatingly slow delivery. Devote least time to the overheads with the highest density of content.

### 8. *Rehearsal is for amateurs*

Conscientious amateurs, worried about such petty trivia as time restrictions, abstract notions of "fairness" towards the session chair and other speakers, and consideration for the audience, may feel impelled to practice their presentations several times beforehand. Some fanatics

have even been known to seek input from colleagues on issues such as emphasis, organization, clarity, length, potential "early stopping points", etc. This type of weakness is for lesser mortals – remember, you are a professional. Nothing as mundane as rehearsal should be allowed to interfere with the delightful spontaneity which is the hallmark of your oratory. As for time constraints, these are imposed with other, less experienced, speakers in mind. The session chair should understand that they do not apply to you. If not, simply cease to acknowledge the chair's existence.

### Statistical specialties

#### 9. *The power of notation*

Although most audiences are familiar with the conventional deployment of Greek symbols in statistics, the experienced TDP still has no difficulty in harnessing the full power of notation to bewilder and confuse. This is possible, even when sticking to notational con-

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ventions which are technically legitimate. Strategies sure to amuse and challenge one's audience include

- Refusal to be bound by conventions of "standard" usage. General recognition of a particular choice of symbols as conventional does not make alternative choices invalid. There's nothing illegal about denoting the mean by  $s$  and the standard deviation by  $\mu$ .
- Giving equal time to the lesser-known Greek letters. Consider using your talk as a vehicle for pursuing the rehabilitation of  $\zeta$ ,  $\xi$ ,  $\omega$ ,  $\psi$ , and  $\nu$ , as partial redress for years of neglect.
- Including each and every detail of the technical conditions needed for your main convergence result, especially those ugly higher-moment assumptions. After all, the audience deserves nothing less than the complete story.
- Subtly changing the symbol for a key parameter half-way through your presentation.

#### 10. Tables and graphs

When deciding how to summarize information for one's presentation, it may be helpful to remember these general points about communicating information intelligibly

- The more densely packed with information, the harder a table is to assimilate, particularly if displayed for a maximum of 30 seconds.
- Mislabeling, or failure to label, rows and columns of a tabular display can greatly enhance audience confusion.
- Most simulations defy clear, concise summarization. Their potential for audience confusion thus greatly exceeds that of real data examples.
- Graphs generally provide more audience-friendly summaries than tables.
- The potential superiority of graphical displays to communicate information is easily sabotaged by techniques such as (i) mislabeling axes (ii) omitting axis labels altogether (iii) using a micro-

scopic font for axis labels (iv) misleading choice of scale (v) confusing choice of symbols, connecting lines, shading patterns etc. This list is in no way exhaustive.

- Including lots of irrelevant detail makes both tables and graphs harder to understand.
- Use of the "show 'n whisk" presentation style to tease audience members (for instance, by limiting display time for information-laden overheads to 30 seconds) can greatly reduce their chances of assimilating the information displayed, whether summarized in tabular or graphical form.

#### Presenting effectively

Giving an effective presentation can indeed be difficult. However, if you can resist the temptation to misbehave in the various ways described in this essay, you will be well on your way. Looking forward to some truly excellent talks at IBC2000!

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