How to give a Good Presentation

A primer for undergraduates in the sciences and environmental studies

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This document is primarily intended for students who give presentations about original data they have collected, but is also intended to be useful for those who give presentations on analyses of previously published information or internship experiences.

Students who wish to really polish their speaking ability should consider taking a formal course in public speaking.

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INTRODUCTION

Consider the presentations you have heard. Were some better than others? What made the good ones good? What made the bad ones bad?

Most undergraduates do not look forward to giving presentations, but many careers hinge on presentations. Consider the future situations that might call for you to give a presentation. If you go into research you will routinely give presentations about your research results. If you go into medicine it is likely that you will be asked to present interesting cases to your colleagues. If you go into business or go to work for a non-profit organization, you may be asked to present proposals for new initiatives, changes to current operations, etc. Your reputation may precede you, but your presentation will probably leave a lasting impression. So, despite any inclination you may have to avoid giving presentations, seek out opportunities to speak and make the most of them. The more presentations you give, the easier they will become and the better they will be.

CRITERIA FOR A GOOD PRESENTATION

To make the most of the listeners' time a presentation should be designed so that:

- The significance of the topic is established at the outset
- Audience members will be able to understand the presentation
- Audience members will find the presentation interesting
- Audience members will find the conclusions logical
- Audience members will learn something
- Audience members will remember something of what they learned.

PREPARATION & TECHNIQUES

Tailoring a presentation to the particular audience
Has a speaker ever lost you after just a few minutes? If so, then, assuming you were paying attention and you were a typical audience member, the fault is the speaker's. The presentation was not appropriately tailored to the audience. The more technical the material, the more critical is this aspect of presentation preparation. Regardless of the audience, the trick is to keep the message simple while avoiding superficial or partial explanations.

Delivery

Show, don't tell: When you give a scholarly presentation, your purpose is to educate your audience. Explain the evidence – both supportive and contradictory – for each point you make. Makes sure you audience has the information to draw their own conclusions. Engage with your audience by keeping good eye-contact and look for visual cues of confusion in your audience.

Emphasize key points: Written documents allow readers to proceed at their own pace, re-read, review, and basically take their time. People listening to a presentation do not have this luxury, therefore it is important for the speaker to clearly emphasize and repeat key points.

Prepare detailed notes: This takes a lot of preparation. The task of writing down precisely what you want to say, forces you to articulate each and every point. In other words, by writing the text of a presentation you not only have figured out what you want to say but also how to say it. However, you must practice, and should NOT simply read your script for the presentation. One option is to type key notes into the "presenter notes" feature of PowerPoint in large font for your reference during the talk.

Get the timing right: Make sure the presentation will fit the time provided, with ample time for a late start, an excessively long introduction, technical problems, and questions at the end. For example, if the session is an hour long, your presentation should not be longer than approximately 40 minutes.

Practice: Presentations require extensive practice and revision. There is no way to get the timing right or to develop a comfortable, simple way to make each of your points without practicing out loud – initially without an audience but later with an audience.

Precision: Make each statement clear, simple, and precise. Strive to make the organization of your presentation as straightforward as possible. Avoid using relative terms without providing any reference.

Avoid distractions: Do not get carried away with a pointer. Use it precisely and only when helpful. Point precisely at particular details and do not wave it around. When you practice, ask your audience to tell you about any distracting mannerisms.

Your voice: Speak loudly enough so that you can easily be heard from anywhere in the room. Try to enunciate clearly. Modulate your tone and let your excitement for the topic show. Your audience will not become interested in the topic if the topic does not seem to interest you. Jokes are best used to help make a point, not just for the sake of making a joke.

Visual Aids

Think about the visual material that will best support your presentation. Make sure anything the audience is expected to see is projected large enough to be seen by an audience member with poor eyesight who is sitting in the back of the room. White on black has the best contrast.

Images should be chosen or drawn for the particular purpose they will serve. Any unnecessary and therefore distracting material should be omitted. Just like your spoken comments, images should minimize the use of acronyms and unnecessary technical terms, and omit unnecessary details. When acronyms are used, clearly define them at appropriate times of the presentation. Do not use gimmicks such as flying text or sounds of breaking glass that you may find in PowerPoint, Prezi, or other alternatives. Collaboration within a group of speakers is easy using Google Docs, however the slide presenter in Google Docs does not have the full functionality of PowerPoint, so be careful of downloads and uploads. It is best, when possible, to test your final presentation in the room, with the AV equipment, before your public talk or to bring your visual aids along with you in several forms (i.e. PowerPoint file on a thumb drive, as well as online, or in your email)

Text slides: Novice speakers often fail to make adequate use of text slides. Text slides should use a minimum amount of text. Text slides should use simple fonts without serifs in large type. Your audience cannot effectively listen to you and read the text at the same time. Never, ever prepare text slides that you only read to the audience and do not expand upon during your presentation.

Data slides: Graphs should be clearly labeled and as simple as possible. Think hard about the best format for each graph. A graph in a presentation should have a title that refers to the variables shown on the graph. Graphs are generally preferable to tables.

Diagrams, drawings, flow charts: Various sorts of illustrations are useful, but a well-drawn diagram, precisely for your particular presentation, will usually be superior to a readily-available diagram.

Photographs: Use photographs that serve an explanatory purpose but avoid photographs that are simply decorative.

ORGANIZATION

The Basic organization of any presentation is:

- Tell them what you are going to tell them (the introduction)
- Tell them (the body of the presentation)
- Tell them what you told them (the summary)

The Introduction: The purpose of an introduction is to place the topic of the particular presentation in its larger context, but that may take some explaining so you must first capture, or hook, the listener's interest. Do this by immediately establishing the reason that the topic is important or interesting. Be sure the topic is described as a question or a hypothesis if possible. Questions and hypotheses can stimulate the listener's imagination and get them thinking about the subject.

The Body: Use a simple, logical organization and clear, precise statements. If your presentation is more than a few minutes long, break up the body of the presentation by returning to an outline slide and reminding the audience what you have already discussed and where you are headed. Include only the information necessary to make the points you wish to make. Omit everything else.

The Summary: Summarize your main points and conclusions as a list on one or a few slides. End with a slide listing your acknowledgements. Thank the people listed on the slide, either collectively or individually, and then offer to take questions from the audience.

Questions from the audience: Listen carefully to each question. Give each question some thought before beginning to presentation. Try to answer the specific question that was asked. Do not be afraid to say, "I do not know," or "That's a good question. I've never thought about that." Do NOT scroll back through your presentation slides with each question; instead you may want to include relevant slides after a blank slide at the end of your presentation.

See Appendices for additional suggestions on organization and content for different types of common presentations in the sciences.

HOW TO LISTEN TO A PRESENTATION

Arrive at least a couple of minutes before the presentation is scheduled to begin. If you arrive late, do your best to minimize the distraction when you enter the room.

Turn off or silence your phone if you have one.

Do not distract the speaker.

Take notes, even if there is not going to be a test. This will help you concentrate on the presentation. You will probably learn more if you take notes – even if you do not review them.

Gracious listeners challenge themselves to make sure they have a question for the speaker in case few others have questions. A lack of questions can leave a speaker with the impression that she bored the audience. Taking notes will probably help you come up with a question.

In most forums it is considered acceptable to ask questions of clarification during a presentation, but all other questions should be reserved for after the speaker has finished their prepared

remarks. Do not ask questions with aggressive language, tone, or mannerisms. Be polite, even if you disagree with the presenter.

Stay until the session is adjourned unless you absolutely cannot. If you know you will have to leave early choose a seat where you will be able to leave with minimum disruption.

ADDITIONAL REFERENCES

These additional references or readings may help you prepare good presentations or answer additional questions.

Kroodsma, D. E. and B. E. Byers. 2000. Suggestions for slides at scientific meetings. The Auk, 117:831-835.

Pickett, S. T. A., B. E. Hall, and M. L. Pace. 1991. Strategy and checklist for effective scientific presentations. Ecological Society of America Bulletin. 72:8-12.

Tufte, E.R. The Visual Display of Quantitative Information. Graphics Press, Cheshire, Connecticut, 2001.

Appendix A: Organization of a Research Presentation

- The introduction should precisely explain the overarching question that motivates your study, as well as any particular hypotheses that you tested and whose tests you plan to discuss. The introduction should describe how the question fits into its broader context and why it makes sense to test the hypotheses you describe.
- The methods section for a presentation is different than a written methods section. The methods section of a presentation should describe the methods in just enough detail that audience members can understand the basic approach of each component of the study. It is often unnecessary to have a separate methods slide, but instead to interweave methods information with your results.
- The results section should clearly describe only those results that are necessary to present. Key features of the results will usually warrant review, both during the results section of a presentation and in the final wrap up. Do not bother telling the audience about what did not work.
- Explain thoroughly the format, axes, units, etc. of any data presentation before focusing on the data. If you will use a particularly complicated figure or a series of figures with the same format, it may be worthwhile to show a blank figure first, and teach the audience how to read such a figure, before distracting them with the data.
- The discussion should interpret the results in the context of the larger question that motivated the study, emphasize reasonable alternative interpretations, state your conclusions, describe the implications of those conclusions, and describe new questions that resulted from the study.
- The summary should use text slides to repeat the question and/or hypotheses, summarize the key findings, and review how the key findings illuminate the original question. If any new questions seem particularly important, the summary can also review those.
- Your acknowledgments should list those who helped with the project, including the individuals or organizations who funded the project.

Appendix B: Organization of a Presentation about Previously Published Information

- Introduce the subject. See the general comments about introductions above.
- Describe your particular question. Explain how answering your question would advance understanding of the larger subject.
- Describe the evidence in terms the audience members will understand. Use a simple, logical organization.
- Draw conclusions about your question on the basis of that evidence.
- Explain the implications of your conclusions for the larger subject.
- Acknowledge anyone who helped you.

Appendix C: Organization of a Report on an Internship or Similar Experience

- Explain where you spent the internship, when you were there and for how long, and who provided the funding.
- Describe your host organization, its purpose, and why its purpose is important.
- Describe the basic approach that the host organization uses to achieve its purpose.
- Describe your role and what you learned.
- Describe how the experience affected your sense of what is important, your worldview, or your career aspirations.
- Describe whether you would recommend the same experience to others, and explain why or why not.
- Acknowledge your hosts, the funding source, and any other appropriate individuals or organizations

PREPARATION CHECKLIST

___ Significance of the topic established at outset.
___ Introduction will hook the listeners' interest.
___ Organization is straightforward and logical.
___ Subject raised in the introduction, described in the body of the presentation, and reviewed in the summary.
___ Summary reviews key points.
___ Presentation ends with acknowledgments (if you have anyone to acknowledge).
___ Presentation targeted to the appropriate audience.
___ Presentation as objective as possible.
___ Statements and images clear, simple, and precise.
___ Claims can be defended with evidence or reasoning.
___ Outline slides provide waypoints for the audience.
___ Graph formats chosen carefully.
___ Critical statements accompanied by corresponding text slides.
___ Complicated statements accompanied by appropriate diagrams.
___ Key points given appropriate emphasis.
___ Lecture notes detailed.
___ Practice has led to a polished presentation.
___ Presentation timing is correct.
___ Lighting and projection systems understood.
___ No unnecessary distractions, such as PowerPoint gimmicks.
___ No apologies!
___ Images easy to see from the back of a poorly lit room.
___ Images designed precisely for this particular presentation.
___ Images as simple as feasible.
___ Slides use fonts without serifs, such as Helvetica.
___ Images remain visible only as long as they correspond to spoken material.
___ Methods described and at the appropriate level for the audience.
___ Data given plenty of emphasis.
___ Minimal use of acronyms, abbreviations, and technical terms.
___ (For really important presentations) a set of backup overheads is available or the speaker can otherwise give the presentation without slides – in case the projection system fails.
___ Paper copy of notes in case computer fails.