

Guidelines for Oral Presentations

(by Stephen Billups)

This guide is intended to give some basic guidelines for preparing and giving technical presentations. There are many books and online resources available that go far beyond this basic advice. My intent here is to cover the basics as concisely as possible. If you are giving a presentation in one of my classes, these guidelines also serve to define some of my grading criteria.

1 Characteristics of a successful technical presentation

A successful presentation

1. has a clear purpose;
2. addresses the intended audience at their level;
3. is well-organized, including a clear introduction, which motivates and previews the talk, and a summary;
4. avoids unnecessary details;
5. uses well-designed visual aides (and other) media;
6. engages the audience;
7. ends on time;

2 Planning your presentation

Before you write your talk you should think about the purpose of your talk, your audience, and the resources you will have available for your talk.

2.1 What is the purpose of your talk?

Every talk has a purpose:

- When you give a talk in class, your goals might be to get a good grade and to not look foolish in front of your classmates.
- When you talk at a conference, your goal might be to interest other people in your work, to impress your colleagues, or to stimulate discussions.
- For talks at work, your goal might be to persuade your administration to fund your project.
- For an interview talk, your goal is to get hired.

Whatever your purpose, you will be more likely to achieve it if you 1) understand what that purpose is, and 2) state your purpose in terms of *what you would like your audience to get out of the talk*. Here are some examples:

- “The audience should understand the definitions of variational inequalities, complementarity problems, and equilibrium problems and know that these problems are equivalent to each other.”
- “The class should be able to calculate the eigenvalues of a 2 by 2 or 3 by 3 matrix by hand”.
- “The audience should understand the main ideas behind my approach and be convinced that my approach is a great new way to analyze microarray data”.
- “I hope to stimulate discussion in the audience to identify potential applications for my research”.
- “I would like to convince the audience that my algorithm is an improvement over the previous state-of-the-art.”
- “I would like my administration to fund my research.”

Once you have a clear statement of your purpose in terms of your effect on the audience, you can plan your talk to achieve that purpose.

2.2 Analyze your audience

The audience you are speaking to can influence the purpose of your talk, the content of the talk, and the organization of the talk. You should think about the following questions:

- What background does your audience have? If you are speaking to a general audience, you will probably need to explain a lot of background material. But for an expert audience, you can leave a lot of that information out. If you have a mixed audience (some expert and some non-expert), you might want to think about different purposes for the two audiences. For example, for an hour-long interview talk, you might have the following goals: For example:
 - “Non-experts in the audience should enjoy the first 15 minutes of my talk and be impressed with my speaking ability.”
 - “Experts in the audience should understand the significance of my research, and be impressed by my mathematical abilities.”

With such a two-pronged approach, you may then include more background at the beginning of the talk, but then target the second half of your talk mostly to the expert audience.

- What expectations do they have?
- What prior beliefs do they have?

3 Organization

The organization of your talk will depend on what you are trying to accomplish. But the following basic outline should serve as a good starting point. Only deviate from this basic outline if you have a good reason.

1. Introduction - Introduce yourself and the topic of your talk, and tell your audience the purpose of your talk. Usually, you will want to include an outline of your talk as well. Explain:
 - Who has done this work.
 - What work has preceded this? What was the context?
 - When was the work done?
 - But most importantly, Why is this work important? (give the audience a reason to listen).
 - Identify who you are/establish your “presence”. Why should they listen to you?
 - Earn the audience’s attention. What will they get from listening to you?
 - Give a roadmap: Tell them what you’re going to tell them. Explain where you plan to go, set up the story. Explain what the audience can anticipate.

(An Outline is not an introduction!)

2. Background - Explain any background material necessary for your audience to understand the main points of your talk and which your audience doesn’t already know.
3. Main Body - Describe your results
 - Create main points to express key ideas and claims.
 - Present points as declarative statements
 - reflect point back to thesis.
 - Verbalize connections between points.
 - Use transitions between points.
4. Summary/Conclusions - Summarize the main points of your talk and state any conclusions.
 - Tell them what you told them.
 - Reinforce thesis