

Chemistry 3250
Making good technical presentations

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Audience and message: The central couple of presentations

- ▶ **Before** you start preparing your presentation, think about
 - ▶ Who the audience is
 - ▶ Who will be there?
 - ▶ Who needs to understand what you have to say (not necessarily the same)?
 - ▶ Understanding your audience affects **how** you deliver your message.
 - ▶ What your message is

The audience

- ▶ Who are they?
What is their background?
What is their relationship to you and to each other?
- ▶ Why do they need the information you will convey?
- ▶ Do they need to make a decision based on this information?
If so, who among them are the deciders?
Who are the advisors to the deciders?
- ▶ Once you have answered these questions, you can decide how to formulate your presentation to achieve the desired effect (informing, convincing, warning, etc.).

The message

- ▶ You should be able to summarize your message in a single sentence.

Important: The single-sentence summary is meant to keep **you** focused as you prepare your presentation. This does **not** mean that this sentence should be included in your presentation, although it very well may.

- ▶ Everything in your presentation should, directly or indirectly, support your message.
Anything that doesn't shouldn't be in there.

Structuring your presentation

- ▶ Your presentation should have a beginning, a middle, and an end.

Beginning: Situate your audience.

Middle: Provide relevant information/data.

End: Conclude.

- ▶ These parts are not necessarily equal in length, nor is there a simple way to decide how to allocate time to them.
- ▶ As a rule, short presentations devote a greater proportion of the allotted time to the beginning, and less to the end. Longer presentations can have a more leisurely wrap-up.

The beginning

- ▶ You need to do several things here:

Provide relevant background

- ▶ Remind audience (briefly) of technical/business issues they probably know about that bear on the issue at hand
- ▶ Provide background the audience is less likely to have

Introduce the issue/problem

Prepare the ground for your message

- ▶ Give the audience a reason to care about what you're going to say.

To outline or not to outline? That is the question

- ▶ Many sources recommend that you provide an outline of your talk at some early point.
- ▶ An uninformative outline:
 - ▶ Introduction
 - ▶ Results
 - ▶ Conclusion
- ▶ If you can give your audience an **informative** outline, go ahead. **Otherwise, don't.**
- ▶ A good outline is specific. You can take it for granted that there will be an introduction and conclusion.

To outline or not to outline? That is the question
Example of a useful outline

- ▶ Two types of catalysis
- ▶ Problems associated with heterogeneous catalysis
- ▶ Problems associated with homogeneous catalysis
- ▶ How to get the best of both worlds

The middle

- ▶ This is the “meat” of your talk:
 - ▶ Data/information
 - ▶ Lay out your argument
- ▶ Make sure you don't lose your audience here.
- ▶ Keep focused on points that contribute to getting your message across.

The end

- ▶ Everything you have said up to this point should lead to a logical conclusion.
- ▶ Summarize arguments, and state conclusion.

Minimalism in slide design

- ▶ People have a limited ability to absorb information in a short period of time.
- ▶ You should minimize
 - ▶ the total number of slides
 - ▶ the text on your slides
 - ▶ quantitative data on your slides
- ▶ Keep in mind that you want people to listen to you, not to read your slides.
- ▶ Try this: After having created the first draft of your presentation, go back and remove as many words as possible.

Slide design

One theme per slide

- ▶ Each slide should have a single theme.
- ▶ A theme could be
 - ▶ An idea you want to get across
 - ▶ A data set you want to present
- ▶ If you only need a little material for a particular theme, it's OK to have slides with a lot of white space.

Slide design

Fonts

- ▶ Sans-serif fonts (like this one) are generally more readable on a screen than serif fonts (like this one).
- ▶ Use a generously sized font.
- ▶ Resist the urge to shrink the font size to make more material fit on a slide.
Split the material across two slides instead.

Slide design

Colors

- ▶ Simple color schemes are best.
- ▶ It's often difficult to find a text color and font that is easily readable on a dark background, especially if the room you will be speaking in is not completely darkened.
Try to use lighter backgrounds as a rule.
- ▶ Whether for text or graphical elements, **yellow** can be difficult to see when projected, even if it looks good on a computer screen.

Slide design

Visual effects

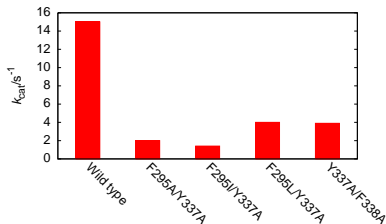
- ▶ **Nobody cares how clever you are with PowerPoint.**
- ▶ Avoid text that appears via fade-in, fade-out, sliding in, etc.
- ▶ Avoid fancy slide transitions (fade-in, morphing, rotating cubes, etc.).
- ▶ Avoid unnecessary animations.

Visual design

Graphs vs tables

For the reaction catalyzed by mouse acetylcholinesterase:

Enzyme	$k_{\text{cat}}/10^4 \text{min}^{-1}$
Wild type	15
F295A/Y337A	2.0
F295I/Y337A	1.4
F295L/Y337A	4.0
Y337A/F338A	3.9



Data from Zovarik et al., *Biochem. J.* **373**, 33 (2003).

Visual design

Graphs

- ▶ The meaning of a graph should be clear with minimal explanation from you.
- ▶ A good graph only contains the information you want your audience to focus on.
- ▶ What kind of graph you use depends on the data presented and on audience expectations.

Planning and pacing

- ▶ It is important to use most of the time allotted to you, but not more.
- ▶ You need to learn to know yourself.
When nervous, do you
 1. speak more quickly,
 2. forget some of the things you meant to say, or
 3. tend to say things you hadn't intended to say?

Each of these alternatives will affect the timing of your real presentation vs practice runs.

- ▶ As a rule, you should plan a *slightly* shorter presentation than the time allotted.
There is generally nothing wrong with leaving a little extra time for questions.

Pacing your talk

- ▶ Most nervous people end up rushing through their presentations.
- ▶ Breathe.
- ▶ Concentrate on speaking slowly and clearly.
- ▶ Your slides should lead you through your presentation.
- ▶ If you are able to, keep an eye on your watch.

Dealing with nervousness

Things to remember:

- ▶ You almost certainly know more about your topic than anyone else in the room.
- ▶ Hostile audiences are a rarity.

Key points to remember

- ▶ You are delivering a **message** to a specific **audience**.
- ▶ Your slides should not distract the audience from your message.
- ▶ Well-designed graphics can convey a lot of information.
- ▶ Timing is very important.