Creating Your 20.109 Presentation

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Presentation Basics

According to *The Book of Lists*, public speaking is the Number One human fear.
Outline

• Before you begin …
• Structuring the presentation
• Principles of effective visual support
• Delivering the presentation
Before you begin…

Oral vs. written communication

• Challenge for the presenter:
  • Must communicate in “real time”

• Challenge for the audience:
  • Can’t control rate of presentation to match their comprehension
  • Can’t re-read sections
Ask yourself...

- What is the main point I want to make to my audience?
- Why is this interesting or important?
- How do the data support my main point?
- What part of my story can I tell with the data in the allotted amount of time?
Know your material and its message

Content is the key!

• Collect more information than you will use
• Anticipate problem areas
• Research unfamiliar words, methods, etc.
• If possible, get a broader context
  • Read a review of paper
  • Read later paper by the same group
Know your audience

- Who are they?
- What do they know?
- What might some of them **not** know?
- What do they want to know more about?
A journal club has a distinct audience and purpose

<table>
<thead>
<tr>
<th>Audience</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>• Fellow researchers (peers)</td>
<td>• Get acquainted with research project</td>
</tr>
<tr>
<td>• Similar (not identical) technical backgrounds</td>
<td>• Understand research in context</td>
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<tr>
<td>• Not experts on this particular research project</td>
<td>• Consider limitations of research</td>
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<td></td>
<td>• Learn how it might apply to future projects, work in 20.109</td>
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Structuring the Presentation

Tell a story

- Narrative Structure
  - Beginning: introduction
  - Middle: data
  - End: summary
- Show how each section relates to and builds upon the one before it
- Engage the audience’s interest as they follow the narrative
Structuring the Presentation

Preview and Review

- Map out goals of the talk in advance
  - Use topic sentences in body of the talk
- Summarize
  - at end of your talk
  - at end of each section
Guide your audience through the logic of the scientific process

Arrange ideas in a logical sequence

- Most important point first
- Emphasize key points as you make them
- Provide explicit transitions between points

Photo courtesy of cdine on Flickr.
Introduction

- Introduce yourself
- Give the title (+ author, journal) of your article
- In one sentence, introduce the central question or problem of the experiment
- State significance of experiment; why should we care?
- Briefly explain necessary background
- Give audience a preview of approach to problem
Data

• Forms bulk of presentation

• Drawn from Methods, Results and Discussion of paper
  • keep explanation of methods to a minimum -- only as much as needed to understand results
  • integrate discussion as you go

• Data are only worth presenting insofar as they relate to your central question
Summary

• What do you want your audience to remember about your talk?

• Remind your audience of primary findings

• Explain what these findings contribute to the field
  • Emphasize the potential interest/utility of findings to your specific audience
Q & A

- Anticipate questions not covered in the presentation
- OK to bring extra slides
- OK to acknowledge gaps in expertise
  - Explain what you *do* know
Principles of Visual Support

Or: Why use slides at all?

<table>
<thead>
<tr>
<th>Disadvantages:</th>
<th>Advantages:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• disruptive -- pull audience’s attention away from the speaker and onto the screen</td>
<td>• can convey a point quickly</td>
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<tr>
<td></td>
<td>• add variety and interest</td>
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<td>• audience recall increases dramatically when the speaker uses <strong>effective</strong> slides</td>
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</tbody>
</table>

**Ask yourself:** What specific message are you trying to convey with your visual?
Direct the audience’s focus

Title all slides

• Headings should clarify the main point of each slide

Use graphics liberally, keep them simple

• Average attention span per slide is 8 seconds

Use clear, explanatory labels for charts and diagrams

• Make sure to label axes!
Less is More

Limit number of slides

Say more than you show

• show primary points on slide; flesh out secondary points verbally

Minimize text

• Don’t crowd your slides with a lot of text. Especially, avoid using complete sentences -- or worse, complete paragraphs. Either the audience will become engrossed in trying to read the text, and will stop paying attention to you, or else they’ll wonder why you didn’t just give them a handout already and save yourself the trouble of reading to them.

Avoid potentially annoying animation

• Really.
More Design Principles

Color

- Be easy on the eyes; don’t distract from content
- Avoid low-contrast combinations
More Design Principles

Color
  • Be easy on the eyes; don’t **distract** from content
  • **Avoid low-contrast combinations**
More Design Principles

Color

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More Design Principles

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Type
- Sans serif headings
- Serif bullets (serif “feet” make lines for ease of reading)
- Type at least 20-24 pt
- Limit upper-case type
Using graphics in a presentation

What story does this picture tell?

“As shown in Fig. 2, the loss of neuraminidase activity from the supernatant coincides with the disappearance of this 66-kDa protein. This indicates that neuraminidase activity is precipitated via the 66-kDa protein.”

Neuraminidase activity is precipitated via 66-kDa protein.

Delivering the Presentation

Rehearse!

- Practice at least 3 times
- Practice with a colleague for feedback
  - Is your content clear?
  - Do you rock, squirm, gesture too much?
  - Is there room for improvements/adjustments?
- Time yourself
- What 3 questions will your audience likely ask?
On Presentation Day...

- Arrive early
- Check equipment and voice projection
- Bring a backup of your presentation
How to Connect with the Audience

Put yourself in the audience’s place

• Explain novel ideas/terms or references
• Use everyday language and terms
• Clarify connections that may be obvious to you but not them

Engage the audience

• Establish eye contact; look at people
• Convey enthusiasm; if you aren’t excited about your subject, your audience won’t be either

A presentation is two-way communication

• Pay attention to audience reaction; modify your talk as needed
Standing

- Don’t block the screen!
- Stand at a 45-degree angle to the audience
- Keep weight evenly dispersed on both feet

Photo courtesy of egg on stilts on Flickr.
Gesture and Movement

- Make non-verbal behavior deliberate; avoid extraneous motion
- Some walking adds variety; too much is distracting
- Use gestures that complement your speech’s content and are natural for you
- Know what your body language says

Photo courtesy of malias on Flickr.
Vocal Issues

Volume

• Project to back of room: support voice from diaphragm

Rate

• Speak at appropriate rate for audience comprehension
• Slow down for especially complex or important content
• Incorporate strategic pauses at key points

Pitch

• Keep pitch of your voice at a natural level
• Avoid “uptalk”
Handling Anxiety

- Practice and prepare
- Focus and center yourself
- Breathe
- Have a conversation
Now What?

- Get acquainted with the research
- Design your slides
- Practice your talk
- Deliver your talk
- Meet to review video and slides
Sources

The Craft of Scientific Presentations

- Michael Alley, Springer, 2005

Purpose, Movement, Color: A Strategy for Effective Presentations


The Quick and Easy Way to Effective Speaking


The Visual Display of Quantitative Information
