

## “Making a GREAT Scientific Presentation”

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### Objectives

1. Describe 4 steps to prepare the content for presentation
  2. Review 3 fundamentals to prepare yourself for the presentation
  3. Describe steps for effective rehearsal
  4. List 6 elements of effective presentation
  5. Discuss “tips” for developing more effective presentations
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### A. Preparing the content for presentation: Four Steps to Take

- a. Outline the presentation by major headings.

NOTE: If using MS PowerPoint sentences as headers may work better than titles to keep your audience connected to the information on the slide. Check with your advisor re: expected conventions for the type of presentation to be given.

- b. Clearly address the research question and methods
  - i. State your hypothesis and/or research question
  - ii. Provide sufficient background to anchor your question and support your findings
    1. Be prepared to state the project’s significance and/or “fit” within contemporary theory. This will provide context for novices as well as peers in the audience.
  - iii. Describe the method(s) and approach used to conduct the research
  - iv. Describe any controls or inclusion/exclusion criteria for your study, if applicable
  - v. Describe how data were analyzed. Be specific about how the method used fits the research question
  - vi. Summarize results
  - vii. Summarize main points for the conclusion. Repeat what you want remembered.
  - viii. Prepare a list of likely questions and the answers to them.
- c. Use a logical path to explain the project and how steps relate to each other. This will help your audience grasp important relationships, particularly if your project is multifaceted.
  - i. Be prepared with simple analogies as well as more detailed deductive reasoning to explain the project and the significance of results.
  - ii. Types of reasoning include: analogy, examples, statistics, referenced facts, inductive reasoning, deductive reasoning (Alley, M., 2003)
- d. Select the most appropriate aids for your presentation (e.g., self, handouts, models, PowerPoint, video clips, sounds, and so forth)
  - i. If using PowerPoint slides DON’T be locked to the template (Alley, M., 2003)
    1. Title slide –okay as is
    2. Sentence heading on slides
    3. One image per slide, or
    4. Three to five lines of text per slide
    5. Plan your transition phrases

6. Plan about one-minute talking per slide (about 100 spoken words per minute)
- ii. Save your slide set as a PowerPoint Show (.pps) file. The slides will open on your title page rather than in edit view.

## B. Preparing yourself for the presentation – fundamentals first!

NOTE: This is **your** project. Be sure you feel good about presenting it. Your enthusiasm for the work can carry you beyond the butterflies most people have when presenting to an audience.

- a. Audience – technical, nontechnical, mixed?
  - i. Pace your presentation – time yourself
  - ii. No jargon without initial explanation
  - iii. Satisfy a mixed audience through the full presentation
- b. Purpose – inform, persuade, test new ideas, challenge ideas, or invite to action?
- c. Occasion – formal, informal, or interactive?
  - i. Conversational/seminar
  - ii. Highly structured/podium or stage talk
  - iii. Blended approach for teaching or instruction

## C. Rehearse! Perfect practice prepares you for a powerful presentation

- a. Get ready to rehearse
  - i. Prepare your slides/visuals
  - ii. Prepare your talking points
    1. Beginning
    2. Middle
    3. Ending
  - iii. Prepare your examples and visuals
  - iv. Make clear transitions
  - v. Conclude with a summary of points to remember
  - vi. Invite questions (see b.ii.4)
- b. Rehearse
  - i. Read through your talking points 3 times
    1. Do **NOT** read your projected slides to the audience. People can read faster than you can talk.
  - ii. Rehearse delivering the talk in the mirror
    1. For your last rehearsal dress as you will for the presentation. If the shoes you plan to wear are new and too tight, better to find out before the presentation.
    2. Consider wearing clothing with a belt or pockets so you have a place to hook the lavalier microphone.
    3. Dress appropriately. This is a good opportunity to try out your interview clothes. How you dress makes an impression on the audience re: your credibility. Don't sell yourself short with too casual an appearance.
    4. Rehearse your answers to likely questions from the audience
  - iii. Audio or videotape yourself
  - iv. Review the tape
    1. Save the sweet spots
    2. Sever the sour spots

#### D. Putting it all together: Six elements for effective presentations

- a. Check out the **environment** ahead of time
  - i. Where is the podium? Where is the projection screen?
  - ii. Stand beside NOT behind the podium
    1. Face the audience, NOT the screen
    2. Focus on the audience in sections
    3. Use natural gestures
    4. Make eye contact, speak/pause, move to next section. Repeat
- b. Build **rappor**t with your audience
  - i. Before your presentation meet a few audience members if you can
  - ii. Begin with a foundation to anchor your talk to something the audience knows. This helps listeners grasp the potential significance of your work
  - iii. Establish a link to your work (logical evidence)
  - iv. Outline your key points
  - v. Define terminology/abbreviations unique to your project
  - vi. Anticipate likely questions from the Novices, Beginners, Advanced Peers and Experts
- c. Prepare you **voice**. Use the microphone if one is available. Your voice needs to be audible to the entire audience.
  - i. Place the microphone one hand width from your sterna notch
  - ii. To test the microphone speak naturally for 20-30 seconds
    1. Do not say, "can you hear me"
    2. Do not say, "Testing, testing 1-2-3"
    3. Do not blow into the microphone
- d. Highlight important data
  - i. Use the features of PowerPoint (e.g., text highlighting, mouse/arrow, pen, appear)
  - ii. Use the laser pointer only if you must
    1. Highlight the area of interest. Turn back to the audience before speaking.
    2. Point and hold the laser on the item of interest
    3. Do NOT swirl, wag, jiggle the laser – it's distracting!
- e. Deliver your presentation effectively
  - i. Give listeners a roadmap: your presentation needs a beginning, middle and end
    1. Title slide
    2. Acknowledgements slide
      - a. Collaborators
      - b. Funders
  - ii. Main segment includes (consider using sentences as slide headers)
    1. Introduction
    2. Methods
      - a. Limitations of the study
    3. Results
    4. Discussion
    5. Conclusion
    6. Questions
  - iii. Offer an overview of main points
    1. Introduce point 1, 2, 3
    2. Discuss point 1
      - a. One point per slide
      - b. Graphic re: time on point
    3. Summarize point 1
    4. Transition to point 2
    5. Repeat sequence

- f. Invite questions
  - i. Repeat the question so the entire audience knows what was asked.
  - ii. Answer the question clearly and succinctly
  - iii. If you can't answer, offer to investigate and follow-up
    - 1. Do **NOT** ask someone in the audience to answer for you. This is your study; not your mentor's or colleague's.

### E. Tips for Developing More Effective Presentation Skills

- a. Great scientists do not always make great speakers. Many scientists are hesitant speakers, other show no enthusiasm for the material by speaking in a monotone voice; some convey the information in ways that excite others and *leave them wanting more*.

REMEMBER: a presentation is an audience focused event. Participants benefit by being able to follow the logic of the speaker, staying on track with each topic, increasing their understanding of the material using any visual aids the speaker provides, and having an opportunity to ask questions.

- b. Use your time well- do **NOT** go over time
    - i. For a 20 minute talk you should speak for 15-minutes
    - ii. Leave time for questions
    - iii. Don't allow the audience to become bored
    - iv. Leave them wanting more
  - c. Make eye contact
  - d. Stand comfortably with feet about 12-18 inches apart
  - e. Voice warm-up → try Peter Piper
  - f. Use silence **NOT** verbal pauses
    - i. Uhhh, uhmm, like, you know, and so forth
  - g. Monitor and manage any idiosyncrasies
    - i. **NO** tapping, pacing, flapping, wiggling, jingling pocket change, and so forth
- F. Advice for handling unexpected disasters: Be prepared
- a. When you're prepared, a SNAFU won't faze you if it happens.
  - b. Computer Crash
    - i. Back-up your presentation
    - ii. E-mail it to the meeting sponsor and e-mail It to yourself
    - iii. Put it on a flash drive (or two)
  - c. Larger Audience than Expected
    - i. Bring 10% more handouts than the expected audience number
  - d. Shorter time for your presentation than expected
    - i. Mark PPT slides that you can skip with a small symbol
    - ii. Do **NOT** skip your conclusion/ending
    - iii. Do **NOT** race to the end as the time winds down
- G. In summary, remember:
- a. Convey enthusiasm about your project
  - b. Focus on your audience, purpose, and the occasion to structure the presentation
  - c. Anchor information to relevant references to connect with both novices and experts
  - d. Summarize important points to close the presentation; then entertain questions
  - e. Stay on time- do **NOT** exceed your allotted time

### Resources

1. Alley, M. (2003). The craft of scientific presentations: critical steps to succeed and critical errors to avoid. NY: Springer Science+Business Media, Inc.
2. Effective talks. [http://www.kumc.edu/SAH/OTed/jradel/preparing\\_talks.html](http://www.kumc.edu/SAH/OTed/jradel/preparing_talks.html)
3. Edwards, P. (2008). How to give an academic talk. [www.si.umich.edu/~pne/PDF/howtotalk.pdf](http://www.si.umich.edu/~pne/PDF/howtotalk.pdf)

# Presenting Your Work: Practice<sup>3</sup>

## Feedback Outline

Please check how important the following items are for your presentation. We will give you feedback on the observable items and ask you to reflect on how the presentation went from your perspective.

### 1. Timing, Flow and Notes

- Outline/notes level was comfortable
- Examples are provided (and included in notes)
- Conversational, logical flow
- (+) Did not read the slides to the audience

### 2. Sense of Urgency Conveyed

- Excitement
- Significance or urgency
- Relevance to audience

### 3. Eye Contact

- Establish eye contact with each section of audience
- Eye contact held 3-5 seconds before moving on

### 4. Vocal & Voice

- Appropriate language (examples for jargon)
- No filler words or verbal pauses
- Vocabulary varied; terms and abbreviations explained
- Voice projection or amplification appropriate
- Vocal variety (not monotone)
- Comfortable, stimulating pace

### 5. Body Language

- Use of physical space
- Positive erect
- Position comfortably on both feet
- Deliberate moves (emphasis)
- Appropriate, tension free gestures
- No distracting items
- Gestures congruent with message

### 6. Humor

- Used when appropriate
- Personalized (experience) to audience
- Delivered crisply; no apologies, explanations, excuses

### 7. Supporting Materials & Technology

- Enhance presentation
- Created effectively; simple, readable, colorful
- Visuals and equipment used effectively
- Created professional handouts; accurate, organized, and consistently designed: including organization identifiers.

### 8. Professionalism Projection

- Appear confident, calm, composed
- Professional image: garments, accessories, shoes, face, hands, and hair

## COMMENTS:

Adapted from *Fearless and Flawless; Public Speaker with Power, Polish and Pizzazz*

Mary-Ellen Drummond

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