

Tips for Designing and Delivering a Dynamic Research Talk

The four things you should remember

1. Engage your audience (get them interested in your topic).
2. Tell a story. (Don't give a speech.)
3. Be dynamic! Plan, and practice your delivery techniques.
4. Visuals (slides, poster, etc) should enhance learning, not be distracting!

**Think of your talk as a *science story*
tailored to *your audience* and *your goals*.**

**Only present information that is
immediately relevant and *necessary* to your story.**

Your Science Story: The Five Questions Every Research Talk Should Address

(five questions courtesy of Françoise Chanut, Ph.D.)

- What is your question?
- Why should people care?
- What did you do?
- What did you find?
- What does it mean?

Exercise: Describe your science story by answering each of these 5 questions, in a total time of 1-2 minutes. This is similar to your "elevator pitch"!

Tailor your presentation to the particular situation of your next talk

1. Identify your own goals for the talk. Your goals may affect what you highlight in your talk. You may even want to share your goal(s) with your audience!
 - a. Do you want to get advice for how to move forward on a challenging aspect of your project?
 - b. Do you want to attract collaborators?
 - c. Do you want to get a job?
2. Know your audience: Think about how your presentation may change based on...
 - a. Reasons why audience members are attending your talk
 - b. What they might be most interested in
 - c. What they may know or not know about your field

The content of your talk

- Clearly lay out the big picture of where your scientific question fits in the field. Point out the broader relevance of this work.
- Highlight the *scientific question* you are aiming to answer by showing the question on its own slide.
- Highlight why your approach is the right one to use to answer this question. Why did you choose this model system?
- Stick to the main point(s). People only remember 3-5 points per hour of lecture.
 - You don't need to give a thorough background. Leave that to review papers. Remember: you want to give them enough to understand the main points, and want to go out and learn more!
 - You don't need to share all experiments you did. Only present the data/results most critical to your story.
- The order of your story doesn't need to be chronological! Present your results in an order that best paints a scientific story. It may not be the same order you ended up discovering those results!
- Never skip the conclusion!
 - The ideal situation is that your audience leaves your talk and tells others "I just saw this great talk. It was about ..." Your audience can basically build your reputation for you! The conclusion of your talk is your opportunity to summarize your work and give these audience members the main points they can share with others.
 - Have a post-it on your laptop that gives the number of your summary slide. In PowerPoint, you can then skip ahead to that slide [without your audience suspecting] by typing the number and quickly hitting "return".
- To clearly signal that your talk is over, keep your final words simple: "Thank you. I am happy to answer any questions you have."
- Handling Q&A: see next page.
- Do NOT memorize your entire talk. (Remember: tell a story, not a speech!) But DO memorize a few key parts of your talk:
 - *First 1 minute of your talk* (you may be nervous, and this will ensure a strong first impression despite nerves),
 - *Conclusion* (you want to end the talk strongly, as this is your last impression to leave the audience with),
 - *Transitions* between parts of your talk. (see next bullet)
- Give clear signals throughout your talk to help your audience follow the story.
 - Listeners appreciate knowing what to expect from your talk. Provide a *roadmap* near the beginning of your talk, giving an agenda for what you will tell them.

- At transition points between major sections of your talk, refer back to the roadmap with a plain slide that visually indicates this transition.
- Consider PAUSING to catch the audience's attention. Any stragglers can then jump back into your talk at this point.
- Memorize exactly what you will say at transitions between major sections of your talk, and even between individual experiments. Briefly re-state what you just showed, and link it to what comes next.
- Always acknowledge others who did the work or contributed to the work. This shows respect to your collaborators.
 - If a figure comes from a paper or someone else's work, reference that paper or person on the bottom right of the slide.
 - Be deliberate in when you verbally say "we" or "I" or "<name of colleague/collaborator>". For example, saying "I" specifies what YOU did, which is important to distinguish in job talks, etc. It is good to start practicing now.
 - When you verbally say "we", you should periodically define what primary people were involved.
 - In addition to the above, list primary researchers who directly contributed to the work on an acknowledgements slide.

Handling "Q & A"

- The best way to prepare for questions is to talk to other scientists about your work! You'll learn what the common questions are, and how to answer them.
- When you're asked a question:
 - *Listen* to the whole question
 - Re-state the question
 - Pause: Take a moment
 - Give a thoughtful and respectful answer
- How to respond in special cases:
 - You don't know the answer: "I'll look up the answer and get back to you."
 - Multiple questions at once
 - Deal with each question one-at-a-time (restate, answer)
 - It is O.K. to ask questioner to repeat a question
 - Answer would be too complex for audience interest
 - "That is a very interesting question, and requires a complex answer. I'm happy to discuss it with you after the talk."
 - Disagrees with you
 - Acknowledge their point of view, and clarify your own point (in case your prior wording was confusing)
 - Do not argue (instead, "agree to disagree"!)
 - Points out shortcomings in the work/presentation
 - Acknowledge the shortcomings and describe how you will address them

- The simple words, “Thank you,” signal to your audience that the Q&A is finished.

Delivery

Words

Use language such as “this was surprising because” or “this was especially exciting because”. These words signal to your audience that the rest of that sentence will be important. And it makes the talk more interesting and engaging!

Body

Stand straight (don’t lean at an angle)
Get out from behind the podium
Move (your feet should not be glued)

Slides

Slides are NOT your script (do NOT read them!)
As you design your slides, remember:
Slides are a tool to improve learning
Minimize use of laser pointer

Eyes

Do not stare at your slides: Tell your story to your *audience* (not the screen)
Look at your audience (back row)
Look at different parts of the audience

Pace

Slow down and enunciate
Helps audience process what you’ve said
Helps people with trouble hearing
Say only what is important to the story.

Practice!

- Mimic the real event:
 - Practice by saying the words out loud!
 - Stand up, use a room similar to the room you’ll be in.
 - Use the laser pointer if you plan to use one during your talk.
 - Ask colleagues (peers and/or mentors), expert and naïve to your field
- Ask your mock audience to give you feedback on the content of your talk, the design of your slides, and your performance during delivery. They can use a research presentation feedback form, available from <http://career.ucsf.edu/lifesci/samples.talks.html>.
- Allow 2 days after each practice talk to implement changes.

Slide Design

- Once you’ve created slides to represent a layout of your talk, go through and refine those slides. Your final slides should:
 - Supplement your talk
 - Facilitate audience learning
 - *Not* act as a script; *not* be distracting.
- Minimize special effects (animated text or transitions; pictures; etc.)—only use effects if they will help you get your point across.

- Pay attention to template's color and font style.
 - Avoid fancy PowerPoint slide templates. The extra graphics and colors that they use can be distracting to your audience.
 - Choose a dark or light background based on which will display your data most effectively.
 - The standard recommendation is to use a sans-serif font, such as Arial or Helvetica.
- Avoid light text on light backgrounds, or dark text on dark backgrounds.
 - To adjust the font color in PowerPoint, highlight the text, go to "Formatting Palette", select the color wheel, and move the marker on the vertical bar to adjust brightness.
- Simplify text on your slides.
 - Avoid sentences. Instead, write a short phrase that summarizes the main point. You don't want your audience reading instead of listening to you!
 - Consider the rule: no more than 6 lines per slide, 6 words/line.
 - Use a new slide to introduce each major idea. Don't squash many ideas into one slide.
- Use visuals.
 - Minimize written details in slides. For example, can you use a visual/illustration or flow chart to describe the method instead of a written protocol?
 - Graphs should be reformatted to make the labels, data points, and data lines large/thick enough to see. In Excel, double-click on an axis line, data line, or data point to re-format it. *Always* label both axes with labels that are large enough to read.
- Title your slides with succinct, descriptive headings. For a data slide showing a result, a heading should be either:
 - The question the experiment is aiming to answer
 - A brief statement of the result itself
- Simplify any visuals you do use.
 - Label key features of your data (and *only* the key features—avoid unnecessary labels).
 - Format pictures in PowerPoint using the Formatting Palette. You can crop, convert to grayscale, change contrast, etc.
- Plan the words you will *say* to introduce each visual, using these 3 steps:
 1. Orient the audience to the figure
 2. Point out the important features, one at a time
 3. Bring home the main point
- Now that you've planned the *words you will say* to describe the data and most important result, revise your slide. If the data is complex, use animation to introduce one feature at a time, or to highlight the main point.
- If you must use a complex figure or table from a published paper...
 - Cover up or remove unnecessary details from the figure/table. Two ways to do this:
 - Cover the extraneous details with white boxes, drawn within PowerPoint.

- The ideal method (but more technically-challenging) is by importing the figure (in pdf format) into Adobe Illustrator, and clicking on and deleting unnecessary lines/labels/etc. A tutorial on how to use Adobe Illustrator is available at: <http://career.ucsf.edu/lifesci/samples.talks.html>.
- If you have to show a complex figure, then be sure to carefully orient your audience, pointing out and describing the important features.
- Make your talk look professional by being consistent in your slide and figure design. On all slides of your talk, use the same:
 - Font
 - Figure style
 - Color schemes (on slides and within figures)

Engage Your Audience

Think creatively about ways to hook your audience early in your talk—perhaps on your first slide!

Some ways to do this are:

- Use humor.
- Use an analogy: show/describe something non-scientific that audience members are familiar with, then surprise them by explaining how this is similar or different to the system/question you are studying.
- Show an animation of your scientific process. You can even hire someone to create one for you. Examples include: onem micron.com, fivth.com, digizyme.com.
- You can even use a prop! This can be effective in situations where an important concept is likely to be difficult for your audience to grasp. It helps some people to see something they are familiar with—such as magnets & springs. Holding a model and playing with it can help them think of systems in a new way.

More PowerPoint tricks

To view these & other shortcuts: Choose “help” from the menu when in slideshow mode.

- Advance to slide # __: Type the slide number, and press “return”
- Blank screen (before or during a presentation): “b” (“b” again to un-blank)
- Show pen: “command-p” (again to get rid of pen)

This handout & other resources are available at:

<http://career.ucsf.edu/lifesci/samples.talks.html>