How to make a scientific presentation

Things to do or not to do in a presentation

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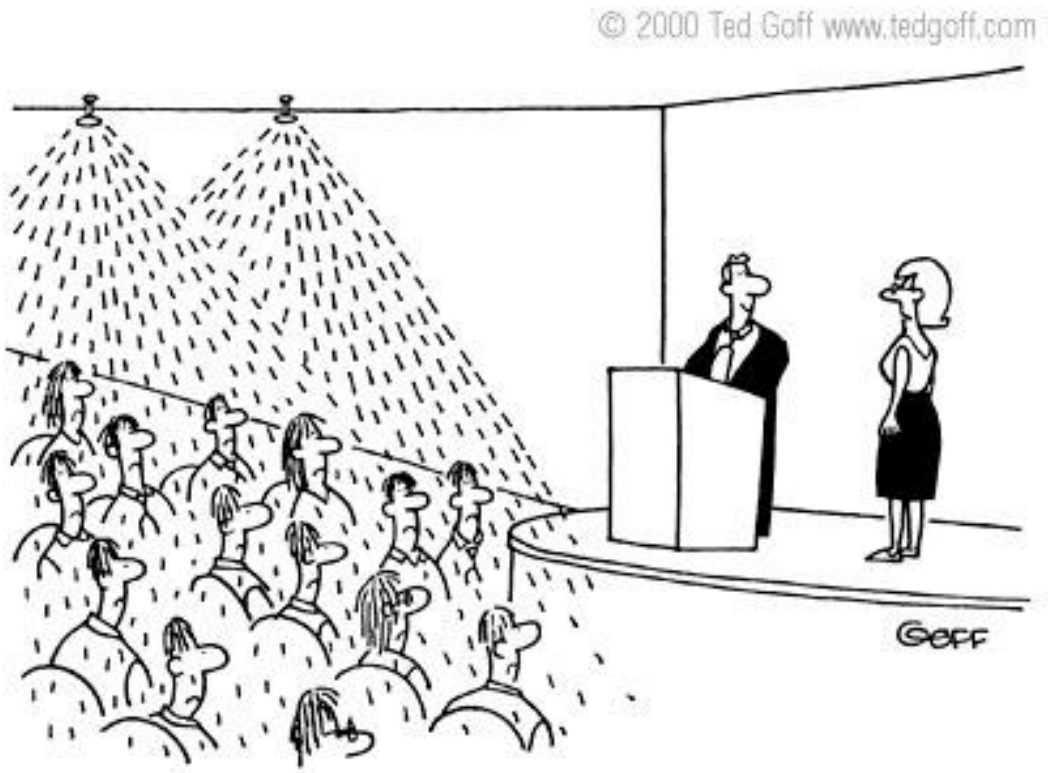
4 June 2020



"You're not allowed to use the sprinkler system to keep your audience awake."

Why this presentation?

- When to make a presentation
- Difference in conference and academic presentation
- A good layout to follow in your scientific presentation
- Some stranded to follow in your scientific presentation
- Critical errors we make in the scientific presentation

A good question is why do we present? Why not just write documents?

Advantages	Disadvantages
Ability to have questions and answers	Only one chance to talk
Greater ability to emphasise elements of the work	Pace of the presenter dictates what the audience learns
Can use more visual aids than other forms of explanation	The success of the presentation is based on delivery form the presenter
Can at least guarantee that the audience has see the important information	Hard to organise audiences

A good presentation is “Telling a good story”

“What unites people?” Tyrion asked.
“Armies? Gold? Flags?”
No. It’s stories, he said.

The term "PowerPoint hell" has been coined for long, tedious PowerPoint presentations that bore the audience".

What is the purpose of a presentation?

To convey to an audience about your chosen subject

To convey this information in a way that can’t be done on paper or poster.

To invite questions to be asked and questions

To make sure they understand that you think your work in important

To excite people about your work (if possible)

A presentation should have a specific purpose (or a goal)

What is my purpose today

I want to try and convince you that presenting is a skill not a tool

https://cutthewood.com/

proconstructionguide.com

Presentations element need to be understand as a skill

The elements of the presentation

1. Structure (Organisation, emphasis, depth, transitions)

2. Visual aids (slides, using a chalk board, demonstrations, videos)

3. Speech (What you say and how you say it)

4. Delivery (interaction with the audience, eye contact, gestures …)

A presentation with a fixed time (a vessel with a fixed volume), the speaker can convey only so many details

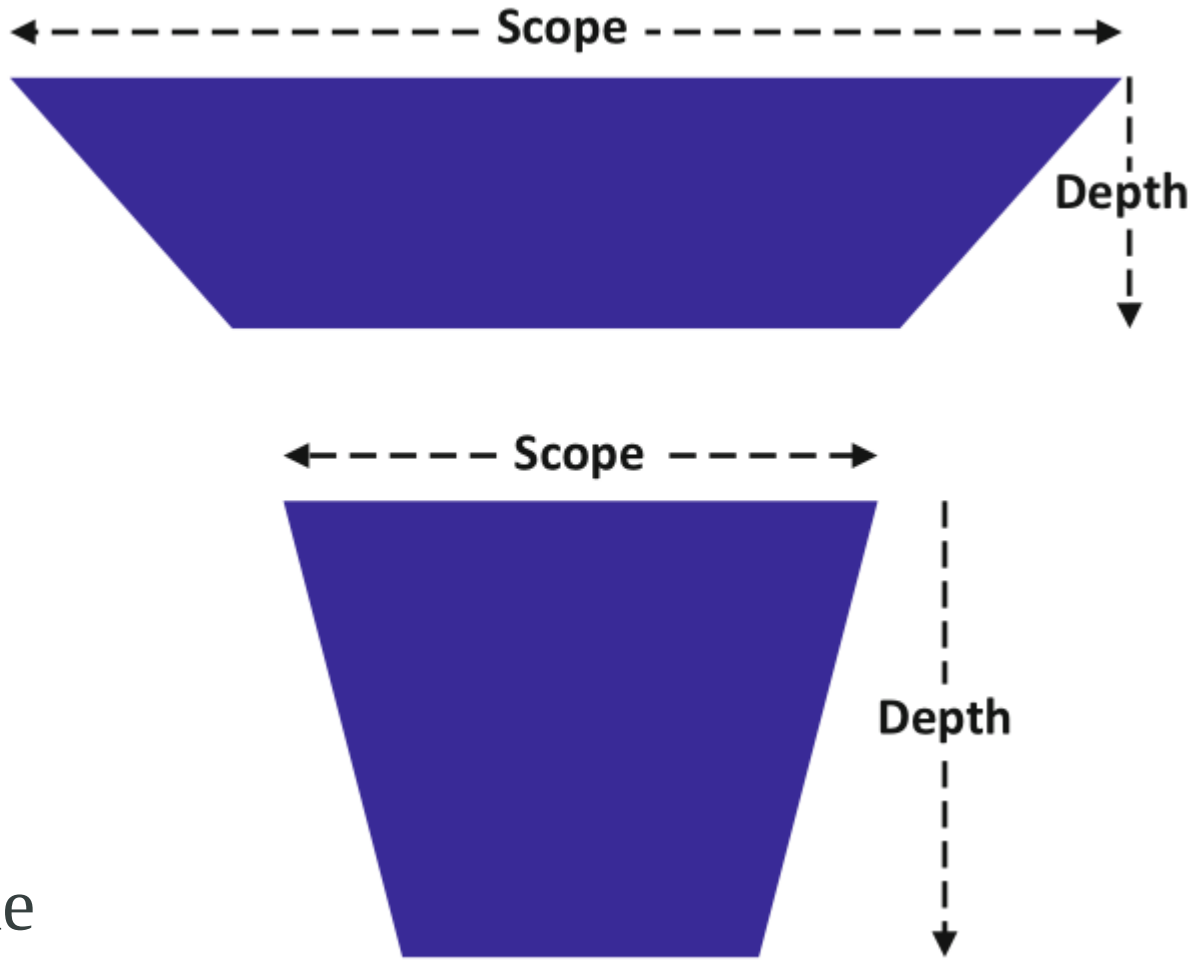
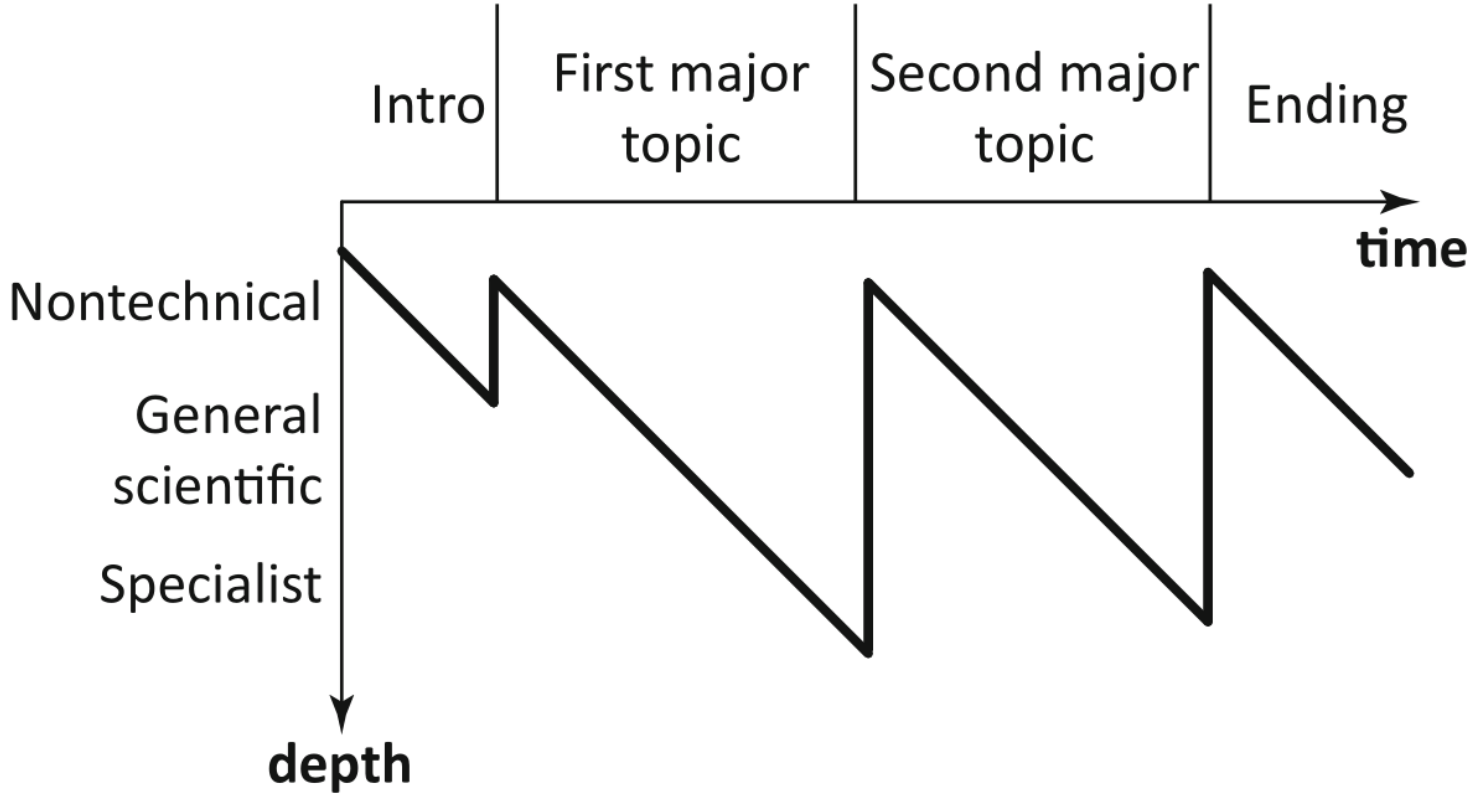


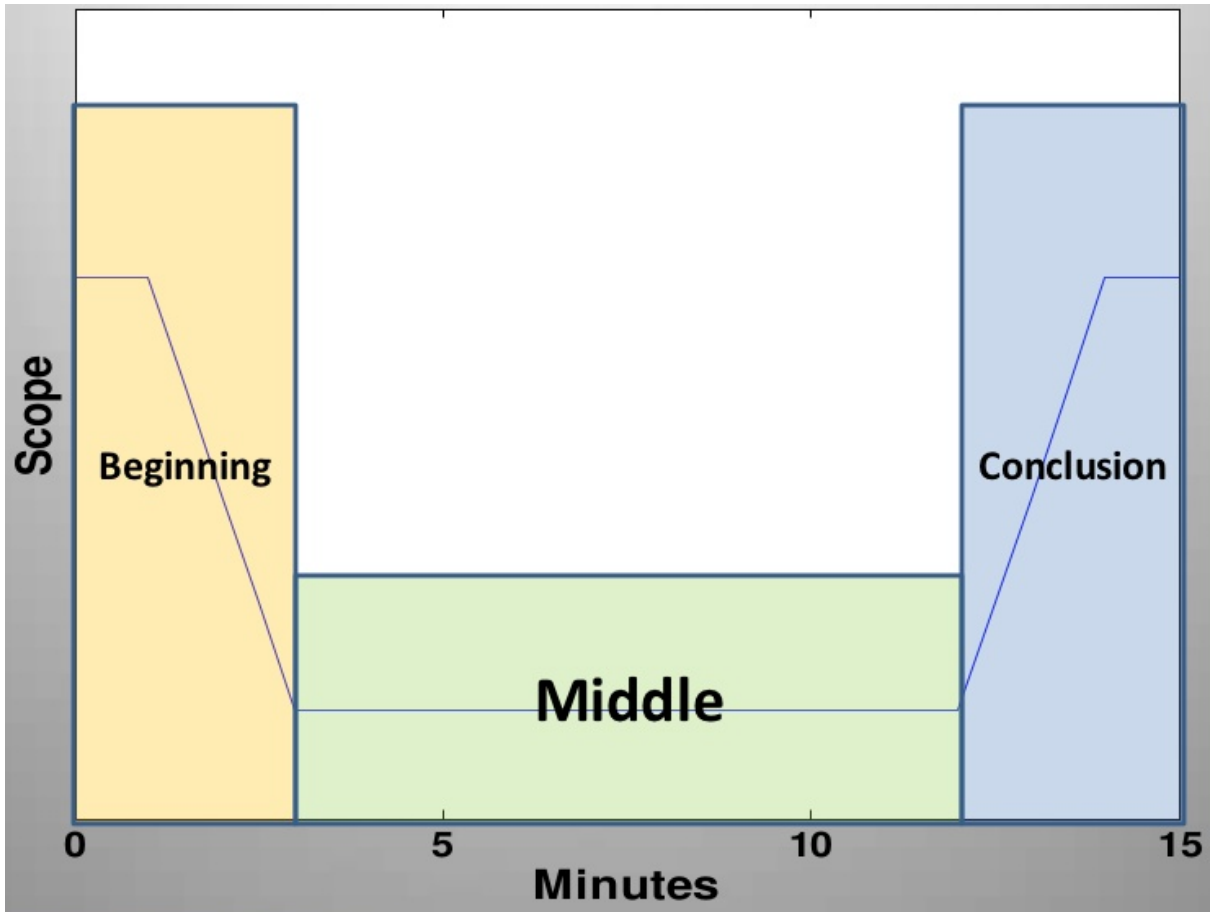
Fig: Relationship of depth and scope.

The broader the scope (top image), the greater the likelihood that a portion of the talk will connect with the audience

Timeline showing presenter reaching multiple audiences by beginning at surface of the topic and diving into a subject



Organizing the content of the presentation such that it can connect with broader audience

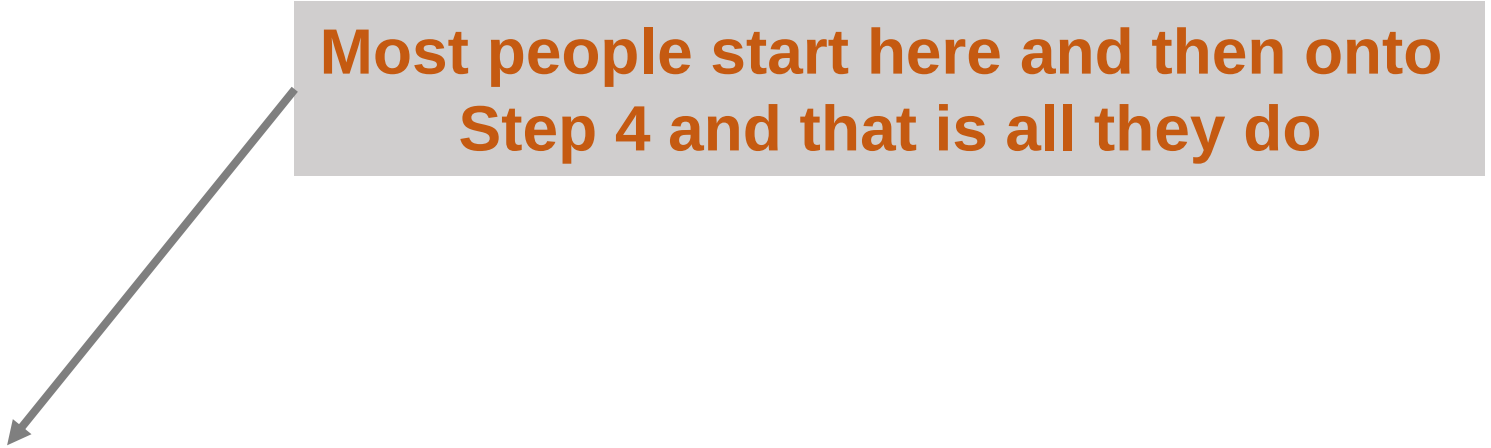


Source: The Craft of Scientific Presentations by Michael Alley

Isn't this all just common sense?

In general how we can plan a presentation

1. Purpose
2. Goals
3. The target audience
4. Content
5. Make the presentation



Presenting is not just making the slides and talking through them and sitting down

Things like trying to get questions asked and answering them are as important and one of the main reasons why we present

Excellent scientific presentations are marked by content, passion, and a keen sense of the audience

1. The audience has to understand, believe, and remember the content.

2. Communicating that content with passion is the second.

3. A keen awareness by the presenter of the audience:
    1. who they are
    2. what they know about the work
    3. why they are listening, and
    4. what preconceptions they have.

An assertion - evidence style of making presentation

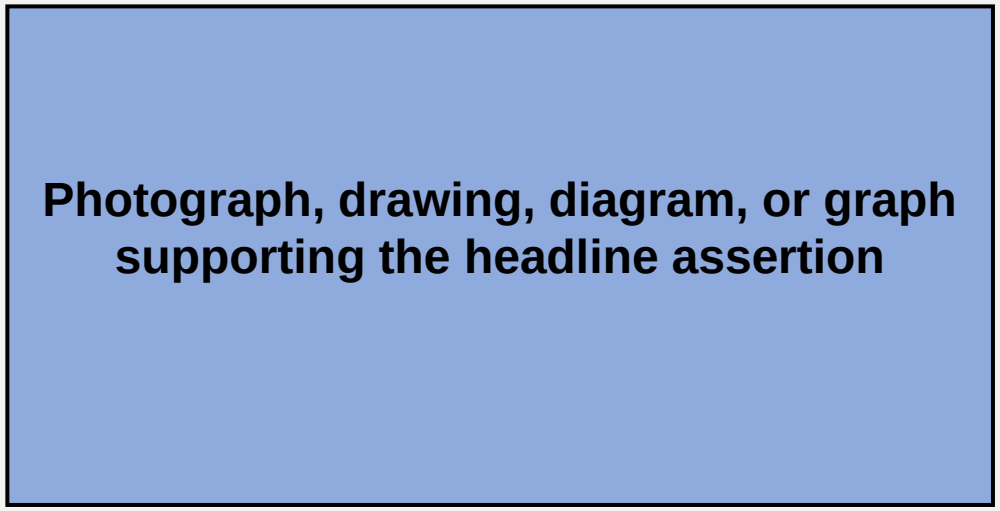
The presentation must be engaging and clearly state the presenter's goals while providing clear evidence to support it.

1. Assertion-Evidence is a style of presentation in which a sentence headline states the main message of the slide—this is the "assertion" part.

2. The assertion is then supported with visual evidence—a photograph, chart, diagram, or video clip.

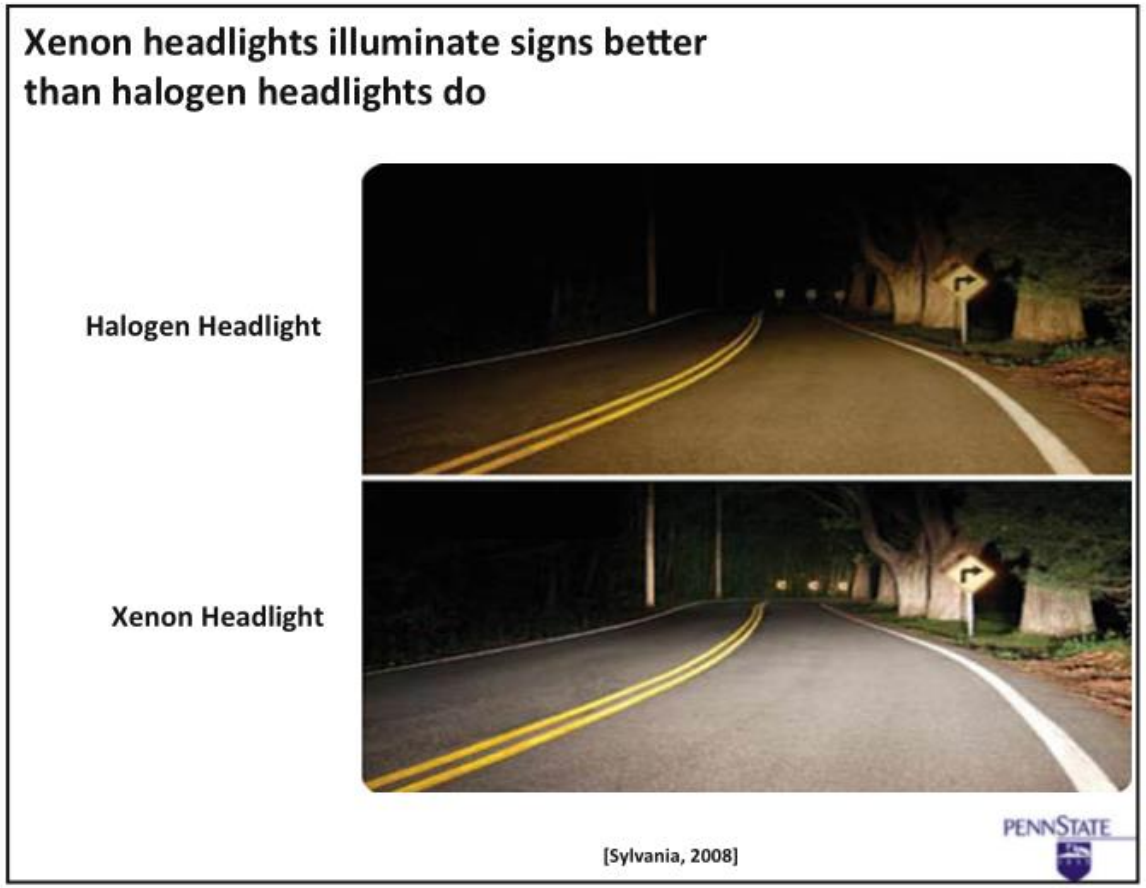
General layout of an assertion-evidence slide layout

In an assertion-evidence slide/ the headline is a sentence, no more than two lines, that states the slide's assertion



Call-out, if needed:
no more than two lines

Sample assertion-evidence slide from the results portion of a presentation comparing xenon headlights with halogen headlights



Assertion-evidence slides lead to more focused talks and more engaging deliveries

A recommended type-sizes for an assertion-evidence slide

1. The headline is 28 points, boldfaced
2. The text in the slide's body ranges from 18 to 24 points, boldfaced
3. The reference listings are 14 points, not boldfaced
4. Too much text on your slides, and your audience may just stop listening.
5. Remember, 20 words per slide, no more (less is much better)
6. Slides are in support of your story
7. More-or-less one slide per minute

Speech: The words you say

- How do you define success of a speech ??
- Speech should targeted to the audience
- Pace should be neither too fast nor too slow

Error that prevent us to having a great presentation

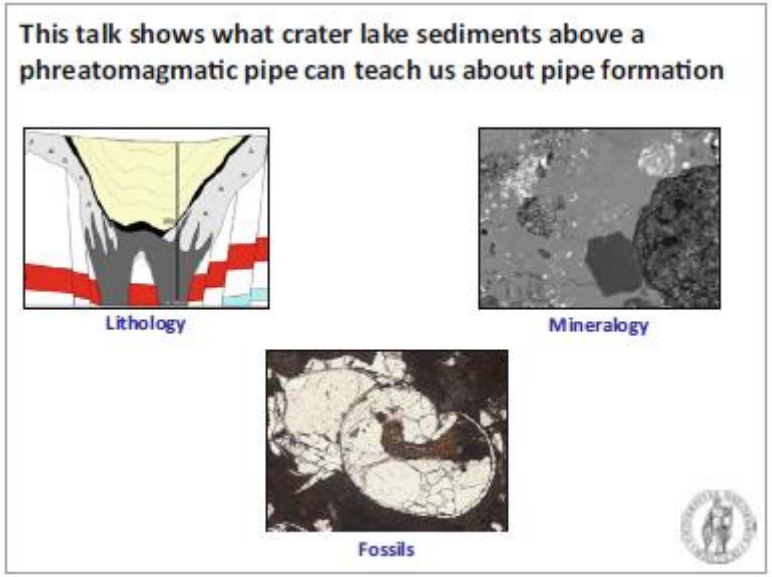
Critical Error 1: Giving the Wrong Speech

1. In analyzing an audience, you assess what they know, why they are there, and what biases they hold
2. The purposes of presentations are often a blend of informing and persuading—and sometimes inspiring
3. Occasion, although often overlooked, can greatly affect the way you present

Critical Error 2: Boring Your Audience

1. Stories can be engaging and memorable
2. Examples and analogies can help audiences understand unfamiliar concepts
3. Humor, when appropriate, can energize an audience

Error that prevent us to having a great presentation



Critical Error 3: Trying to Cover Too Much

1. Many talks fail because the scope is too broad
2. Many talks fail because the depth is too deep

Critical Error 4: Losing the Audience from the Start

1. The beginning should memorably map the talk
2. The beginning should show the importance and boundaries of the subject
3. The beginning should provide needed background and establish credibility

Critical Error 5: Losing the Audience on the Trail

1. The speaker has to choose a destination that the audience can reach
2. The speaker has to signal changes in direction

Error that prevent us to having a great presentation

Critical Error 6: Not Anticipating the Audience's Bias

1. An audience is more likely to believe your argument if they know and appreciate the assertions
2. An effective argument provides ample evidence for the assertions
3. With an antagonistic audience, building credibility is crucial

Critical Error 7: Following the Defaults of PowerPoint

1. For slides to be effective, the format must rise above PowerPoint's defaults
2. An assertion-evidence slide calls for supporting the headline with visual evidence, not bulleted lists

Bullets do not shown connections. Bullets do not reveal hierarchy. Bullets leave critical assertions unspecified
–Gordon Shaw

Error that prevent us to having a great presentation

Critical Error 8: Not Paying Attention

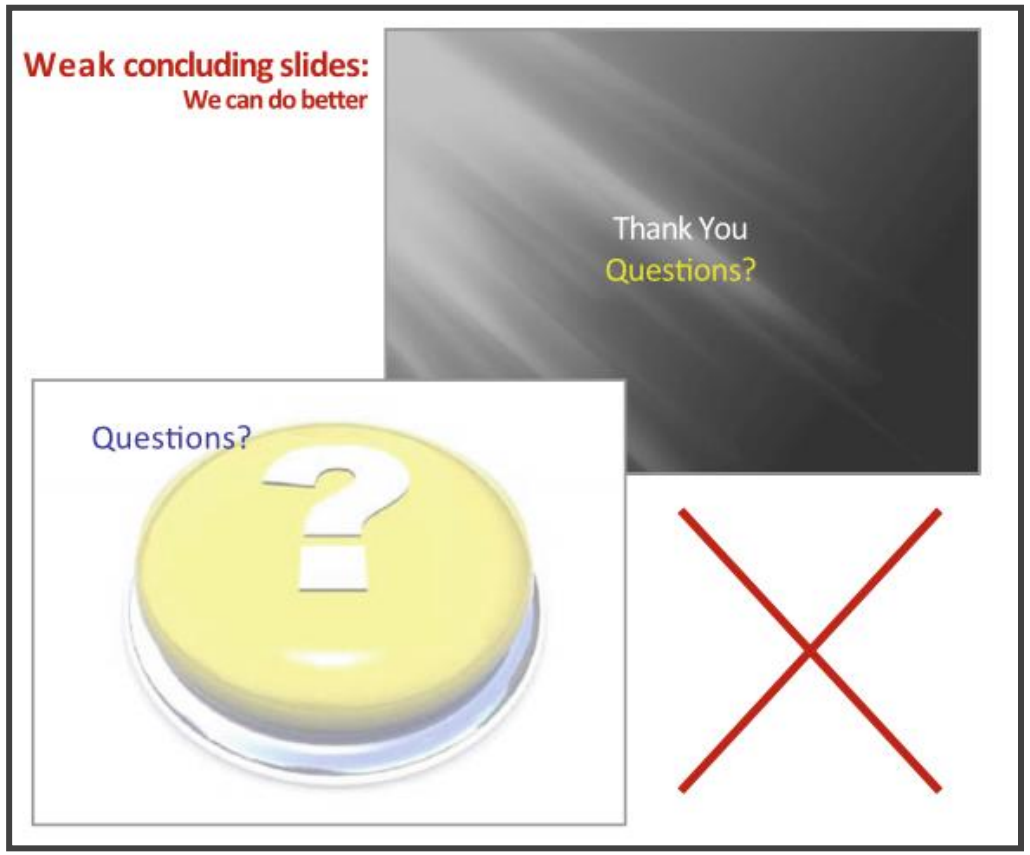
1. Pay attention to the room
2. Pay attention to yourself
3. Pay attention to the audience
4. Pay attention to the time

“Writing a transcript makes your presentation more accessible.”

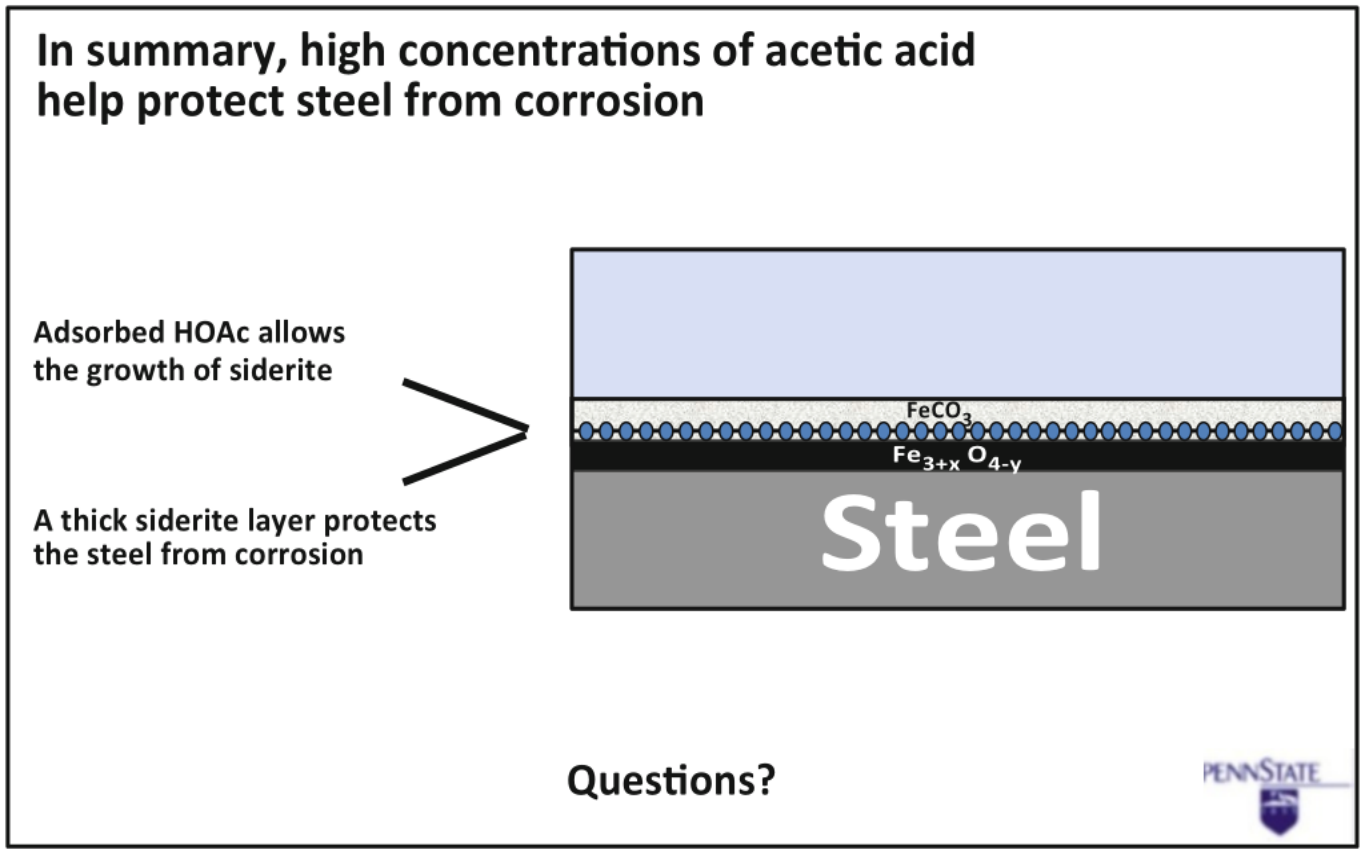
If you post your presentation online, people who attended your session will be able to get a refresher on the details.

If people didn’t attend your live session, they’ll still be able to learn from your presentation.

A conclusion slide should summarize your presentation



Weak final slides, typical of what occurs in scientific presentations. We can do better.



Strong example of a concluding slide