How to Give a Successful Presentation

CS A470

Uses material by J.W. Niemantsverdriet
and The International Association of
Science and Technology for Development

Introduction

- Have you ever been to an oral presentation that dealt with interesting science but could not pay attention?
  - Is it you?
  - Or is it the speaker?
- Good chance it is the speaker
  - How can we make presentations better?
 - Must be aware of the audience

Attention

- If you could make a graph of student attention over time in a 1 hour class, what do you think it would look like?

100% ─┤

Attention

Start of class   Time ⟶   End of class
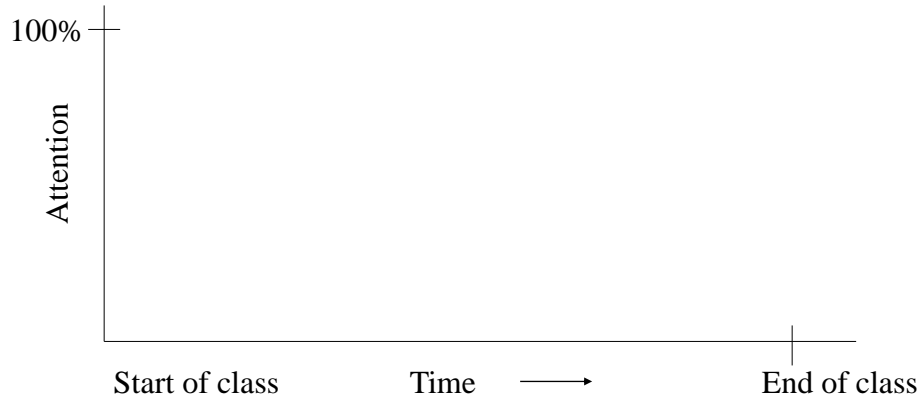
Attention

- Did people come to see your talk specifically?
- Almost everyone listens in the beginning.
  - Present message, make it clear the audience can't afford to miss the rest!
- To get message through, state it at the beginning and end
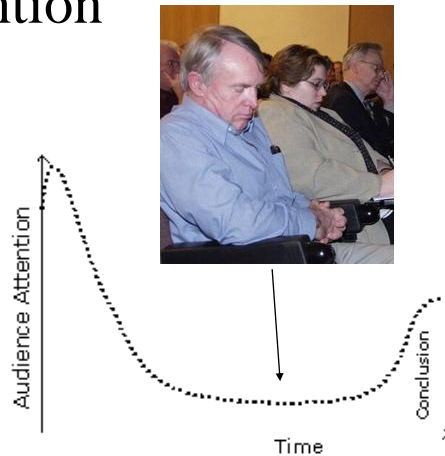
Better Approach

- Divide your presentation in several parts, each ended by an intermediate conclusion
  - Distracted people can always easily catch up with you
  - Important items said many times
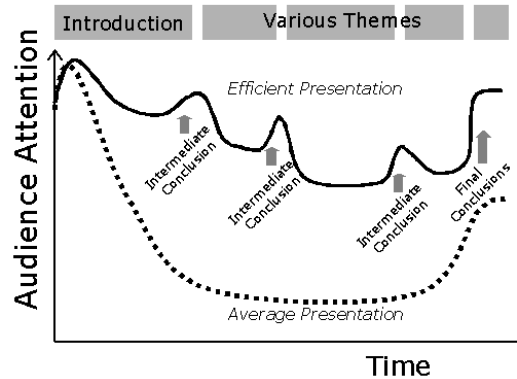
Why does an audience get distracted?

- Out of your control
  - Not enough sleep
  - Poor sound system
  - People walking by
  - Other noises
- Within your control
  - Speaker error
  - Presentation error

Common Errors

- Speaker lives in his own little world
- Presentation structure, reasoning, unclear
- Visual aids confusing or unreadable
  - Too small, too crowded, etc.
  - Too many too fast (one per minute a good rule of thumb)
- Long, complicated sentences and jargon
  - Avoid too many passive sentences
  - "From this figure it was deduced that" to "This figure implies that"

Common Errors

- Speaker reads speech from paper
  - Written language more formal and complex than verbal
  - Reading written text usually a lot faster than impromptu speaking
  - Never read from paper, even if speaking in a second language! Notes are OK, though
- Monotonous sentences, bad pronunciation
  - Too fast or too slow
  - Turning back to audience and watching screen instead of visual contact
- Pointing at the computer screen

How Fast?

- Not too fast, please….!
  - If the talk is rehearsed too much, may speak too fast
  - Even though this may allow all material to be covered in the time limit, it is not in the interest of the audience
- But try to vary your pace
  - As a rule of thumb, speaking at 150 words per minute is all right.
  - Key ideas, complicated points, or concluding remarks are best presented at a slower pace.

Audience Involvement

- Invite Participation
  - "Are there any questions?" is usually not good enough
- If possible, design the presentation to be interactive
  - Exercises or games
  - Helps raise attention, memorability of exercise message, active instead of passive learning
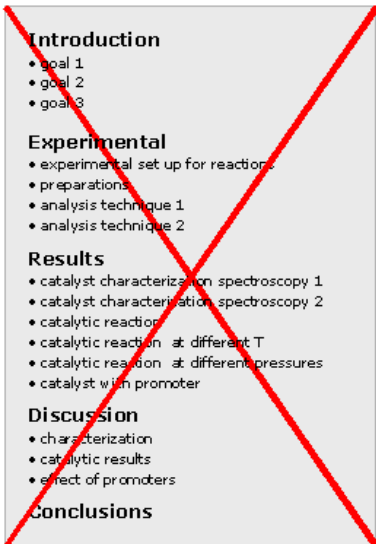
Background Information

- Audiences love background information
- Good for attendees not specifically there for your subject
  - Give them the impression they will learn something
  - Means you must cover general aspects, good introduction
  - Will appreciate subtleties of your work if they understand the background
- How much background?
  - 5% to 30% of your talk but not much more (unless your whole talk is a background talk!)

Organizing Your Presentation

- Most written reports follow this format:
  - Introduction
  - Description of problem
  - Description of system, experimental methods
  - Results
  - Discussion
  - Conclusion
  - References
- Fine for written reports, readers can skip around in the report as necessary
- Can't skip around in an oral presentation!

Problems with Traditional Presentation

- If the oral presentation follows the same format as the written report
  - Listeners must remember details of the methods when the results are presented
  - Asking a lot of the audience to remember facts and figures until they are tied together at the end
- Better method: Split presentation into a presentation of many smaller problems
  - Group together each sub-problem, sub-method, sub-results
  - Overall conclusions at end

Introduction
- goal 1
- goal 2
- goal 3

Experimental
- experimental set up for reactions
- preparations
- analysis technique 1
- analysis technique 2

Results
- catalyst characterization spectroscopy 1
- catalyst characterization spectroscopy 2
- catalytic reaction
- catalytic reaction at different T
- catalytic reaction at different pressures
- catalyst with promoter

Discussion
- characterization
- catalytic results
- effect of promoters

Conclusions

Article Structure
not recommended for talks

General Introduction
not too short, is very much appreciated by a large part of the audience

Catalyst & Characterization
- aims
- preparation of catalyst
- principles characterization technique 1
- results + interpretation
- principles characterization technique 2
- results + interpretation
- discussion of catalyst structure + conclusion

Catalytic Reaction
- aims
- experimental set up reactions
- results catalytic reaction
- results catalytic reaction at different T
- catalytic reaction at different pressures
- catalyst with promoter

Conclusions
- catalyst structure
- catalytic properties
- assessment and outlook

Presentation Structure

Spelling and Grammar

- Proof your slides for:
  - speling mistakes
  - the use of of repeated words
  - grammatical errors you might have make

- If English is not your first language, please have someone else check your presentation!

Ten Steps to a Successful Presentation

- You should realize that the two key issues in the preparation of a talk are:
  - The message: What do I want the audience to know when I am finished?
  - The audience: How do I present my talk such that the audience will understand and remember what I have to say?

Ten Steps to Success

1. Start on time
   - Don't wait until the last minute to start your presentation
   - Collect background, related material, relevant conclusions
   - Imagine the audience and what to consider as background
2. The Message
   - Try to capture the message of your presentation in a single sentence
   - Difficult to do – requires solid understanding of material
   - Example:

   > **Example:**
   > *"I want to convince the audience that among a class of bimetallic catalysts the combination of Fe-Ir/SiO$_2$ shows the best catalytic performance for CO hydrogenation and that it works because the adsorption energy of carbon monoxide is efficiently diminished with respect to that on the single metals."*

Ten Steps to Success

3. Select results and order them
   - Chronological order you performed them not necessarily best
   - If something does not contribute to your message, then leave it out
   - Again, consider your audience and how results best matches their interests and knowledge
4. Opening and Introduction
   - First few sentences catches lots of attention
   - Make a catchy or provocative statement, ask a scientific question
   - Might even give the conclusion of your work
   - Speak slowly, with emphasis, and look at the audience
     - Of course you must have prepared and rehearsed the opening carefully
   - Many people will be very interested in a concise summary of the status in your area
   - Presentation should not be a suspense thriller!

Don't Do This

- An often heard, but poor start of a presentation is:
  - *"Good morning, ladies and gentlemen. I am ... ... and I'd like to tell you something about my Ph.D. project at the Group of Archaic Chemistry at the University of Science City. The title of my talk is ... .*
  - *I will start with an Introduction, then explain the experimental techniques, next present the most important results, and finally I hope to draw a few conclusions and I want to acknowledge a few people. So let us start with the Introduction ..."*
- Lots of people do this
  - But it is totally inefficient
  - How would you respond if you were in the audience?

Ten Steps to Success

5. Conclusion and Ending
   - Announce properly to regain full attention
   - Present concise conclusion in relation to questions raised
   - Repeat the take-home message of your talk
   - May also add your name if you want the audience to remember you
6. Design figures for impact
   - Audience will not have time to study it
   - Must be easy to read (large lettering, good contrast)
   - Must explain itself (clear title, caption)
   - Contain only relevant information and not lots of jargon or codes
   - Tables are NOT recommended
   - Keep equations to a minimum when possible, effective for writeup but hard to digest in a presentation
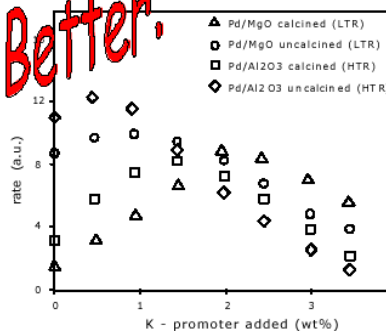
How Would You Present This?

- Here is some data you would like to present; how would you do it?

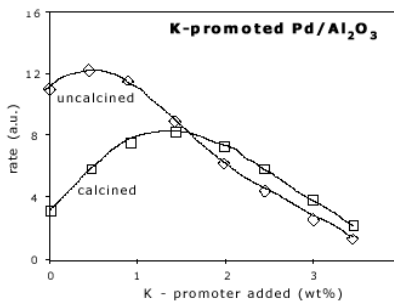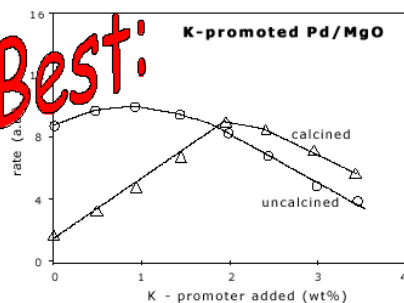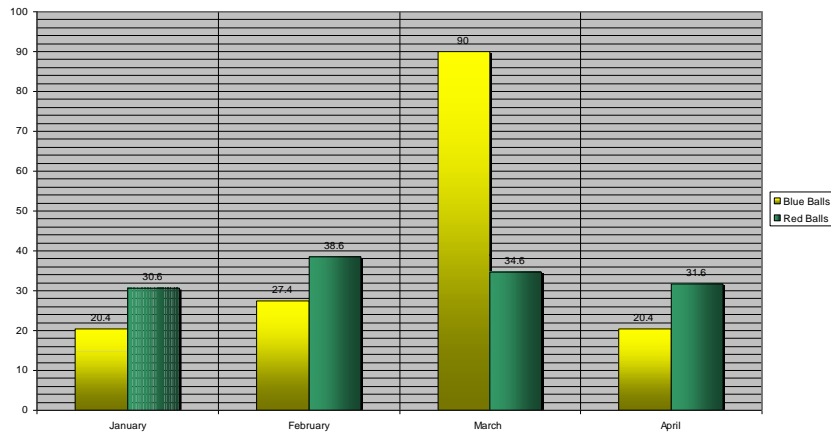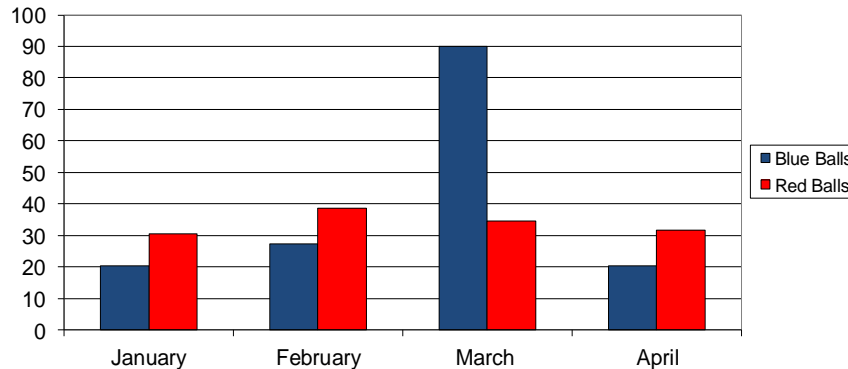| Foobarb		Doofarb	
X	Value	X	Value
0	103	0	203
1	120	1	195
2	125	2	188
3	144	3	132
4	176	4	142
5	192	5	115
6	201	6	105
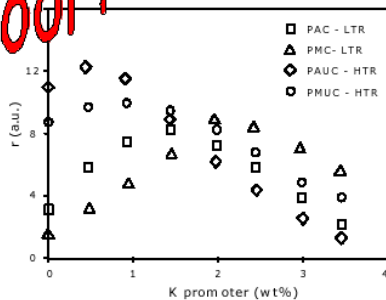
Graphs - Bad

Graphs - Bad

- Minor gridlines are unnecessary
- Font is too small
- Colors are illogical
- Title is missing
- Shading is distracting

Graphs - Good

Items Sold in First Quarter of 2002

Ten Tips to Success

7. Making Your Slides
   – Preferably use landscape format
   – Use large lettering
   – Black letters on a white background, or bright yellow on black or dark blue give the best result
     • Consider brightness, contrast of computer projector
   – Do not use structured backgrounds and do not waste too useful space on logos, etc.
   – Use pictures, figures, with a title, a short, clear caption
   – Avoid data in tables or in text
   – If you use text than no more than 8-12 lines per slide in 4-5 bullets
   – Avoid complete sentences, use "headlines"

Colors and Backgrounds

This is not recommended

text on a structured background

may look fancy and attractive at first sight

but is hard to read in a large lecture theater

even if you use large, black lettering

This is acceptable

bright yellow or white
on the darkest possible blue

be careful with other colours

grey, green, orange, brown, blue

are much less clear

This is quite clear

In fact, there is nothing wrong

with using black letters

on a white background

Ten Steps to Success

8. Communication, not necessarily performing
   - Use everyday language wherever possible
   - Trying to use lots of jargon, acronyms, etc. will not impress, just leave your audience confused or bored
9. Timing – Absolutely necessary
   - Does everything fit in the available time?
   - Use a watch and go
   - Typically you will need to cut down on material
     - Best to skip less important items in the middle
     - Never compromise on the Introduction and Conclusions
     - If having problems, can try writing out the first part in short, clear sentences

Don't Lose Time at the Start

- Most speakers will be introduced, at least given your name and title of your presentation
  - You do not need to repeat this, simply showing it on a slide is sufficient
- Some speakers noticeably have difficult getting started
  - May have stage fear
- A good start of the talk is critically important in catching the audience's attention
  - Meticulously prepare the first five minutes
  - Rehearse several times

Ten Steps to Success

10. Are you nervous? Hopefully you are!
    - Few people are natural born speakers
    - Nervousness not a sign of being incapable of delivering a good presentation
      - Body getting ready for something important
      - Athletes, performers, musicians recognize these symptoms and appreciate them – even worry if they stay away!
      - Power Pose for 2 minutes before event
    - By following these ten steps you will avoid the typical mistakes that beginners make and give a significantly better than average presentation

Addendum 1: PowerPoint Specifics

- Don't overcrowd your slides with pictures
- Those transition animations are so cool, why not use them all?
    - Even better, you can attach sounds to the animations and make the letters fly out one at a time
- PowerPoint lets you make text with a font size of 8, so it should be okay…

Fonts - Good

- Use at least an 18-point font
- Use different size fonts for main points and secondary points
    - this font is 24-point, the main point font is 28-point, and the title font is 36-point
- Use a standard font like Times New Roman or **Arial**

Fonts - Bad

- If you use a small font, your audience won't be able to read what you have written

- CAPITALIZE ONLY WHEN NECESSARY. IT IS DIFFICULT TO READ

- **Don't use a complicated font**

Slide Structure – Good

- Use 1-2 slides per minute of your presentation
- Write in point form, not complete sentences
- Include 4-5 points per slide
- Avoid wordiness: use key words and phrases only

Slide Structure - Bad

- This page contains too many words for a presentation slide. It is not written in point form, making it difficult both for your audience to read and for you to present each point. Although there are exactly the same number of points on this slide as the previous slide, it looks much more complicated. In short, your audience will spend too much time trying to read this paragraph instead of listening to you.

Slide Structure – Good

- Show one point at a time:
  - Will help audience concentrate on what you are saying
  - Will prevent audience from reading ahead
  - Will help you keep your presentation focused

Color - Good

- Use a color of font that contrasts sharply with the background
  - Ex: blue font on white background
- Use color to reinforce the logic of your structure
  - Ex: light blue title and dark blue text
- Use color to emphasize a point
  - But only use this occasionally

Color - Bad

- Using a font color that does not contrast with the background color is hard to read
- Using color for decoration is distracting and annoying.
- Using a different color for each point is unnecessary
  - Using a different color for secondary points is also unnecessary
- Trying to be creative can also be bad

Test Your Knowledge - Quiz Game!

Layout   Potpourri   Scores

$200	$200
$400	$400
$600	$600
$800	$800

Addendum 2: How to give a BAD Talk

- David A. Patterson
- Computer Science Division
  University of California-Berkeley
- Ten commandments (with annotations gleaned from Patterson's talk by Mark D. Hill):

Final Conclusion

- Comedian Dan McMillan concurs
- http://www.technicallyfunny.com/videos.htm

Deliver a Presentation Like Steve Jobs

- Carmine Gallo
  - http://www.businessweek.com/smallbiz/content/jan2008/sb20080125_269732.htm
- Geared toward business presentations, but still useful material

1. Set the theme

- "There is something in the air today."
  - With those words, Jobs opened Macworld and set the theme for his presentation
  - Hinted at MacBook Air
- Every presentation needs a theme, but you don't have to deliver it at the start.
  - 20 minutes into his 2007 presentation: "Today Apple reinvents the phone."
- Once you identify your theme, make sure you deliver it several times throughout your presentation.

2. Demonstrate enthusiasm

- Show your passion for the project
  - "extraordinary," "amazing," "cool," "insanely great"
- Most speakers have room to add some flair to their presentations.
  - Your audience wants to be wowed, not put to sleep.
  - Inject your own personality into it.
- Most speakers get into presentation mode and feel as though they have to strip the talk of any fun.
  - If you are not enthusiastic about your own products or services, how do you expect your audience to be?

3. Provide an outline

- Jobs outlined the presentation by saying, "There are four things I want to talk about today. So let's get started…"

- Jobs followed his outline by verbally opening and closing each of the four sections and making clear transitions in between.

- Contradictory to prior advice for scientific presentations?

4. Make numbers meaningful

- Instead of "Apple had sold 4 million iPhones to date," he put it in perspective by adding, "That's 20,000 iPhones every day, on average."
  - Jobs went on to say, "What does that mean to the overall market?"
  - Jobs detailed the breakdown of the U.S smartphone market and Apple's share of it to demonstrate just how impressive the number actually is.

- Connect the dots for your listeners.

5. Try for an unforgettable moment

- This is the moment in your presentation that everyone will be talking about.
- Every Steve Jobs presentation builds up to one big scene.
  - 2008 Macworld keynote, it was the announcement of MacBook Air. To demonstrate just how thin it is, Jobs pulled it out of an envelope.

6. Create visual slides

- While most speakers fill their slides with data, text, and charts, Jobs does the opposite.
  - For example, his phrase "The first thing I want to talk to you about today…" was accompanied by a slide with the numeral 1.
  - "There is something in the air."
- There is a trend in public speaking to paint a picture for audiences by creating more visual graphics. Inspiring presenters are short on bullet points and big on graphics.

7. Give 'em a show

- A Jobs presentation has ebbs and flows, themes and transitions
- Instead of simply delivering information, Jobs includes video clips, demonstrations, and guests.

8. Don't sweat the small stuff

- Despite your best preparation, something might go wrong
  - E.g., Jobs was about to show some photographs from Flickr, and the screen went black. Jobs smiled and said, "Well, I guess Flickr isn't serving up the photos today."
  - He then recapped the new features he had just introduced.
  - It was no big deal.
- Some presenters get flustered over minor glitches. Don't sweat minor mishaps. Have fun. Few will remember a glitch unless you call attention to it.

9. Sell the benefit

- While most presenters promote product features, Jobs sells benefits.
  - E.g., renting a more popular model for movies than owning
- Your listeners are always asking themselves, "What's in it for me?" Answer the question. Don't make them guess.
- Clearly state the benefit of every service, feature, or product.

10. Rehearse, rehearse, rehearse

- Steve Jobs cannot pull off an intricate presentation with video clips, demonstrations, and outside speakers without hours of rehearsal.
- Jobs supposedly rehearses the entire presentation aloud for many hours.
- A Steve Jobs presentation looks effortless because it is well-rehearsed.

Game Slides

Layout - $200

True or False:
It is a good idea to vary the font face
and background images to keep our
viewers interested.

Back

Layout - $400

True or False:
To make sure readers can understand your message be sure to add enough text that explains in detail what your program/code/algorithm/etc. is doing
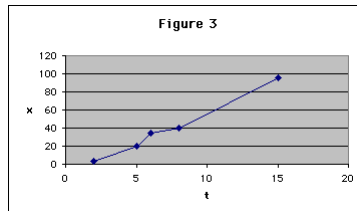
Back

Layout - $600

What is the maximum number of lines of text you should put on a single slide?

Back

Layout - $800

Name at least TWO things that are
bad about the following graph.

Figure 3

Potpourri - $200

True or False:
You should memorize your
presentation so you can deliver it
smoothly.

Potpourri - $400

True or False:

Audience attention is usually high at the beginning of a talk and decreases toward the end of the talk

Back

Potpourri - $600

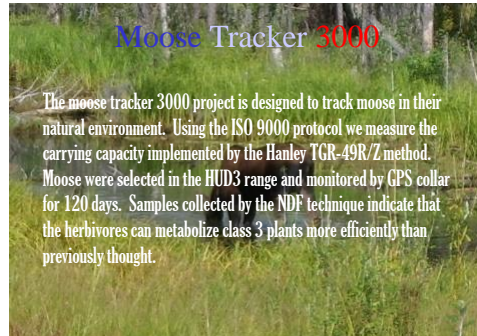What is wrong with this slide?

> Outline of Talk
> • Introduction
> • Proposed solution
> • Design of solution
> • User feedback
> • Results and Conclusion

Back

Potpourri - $800

Name at least TWO things that could be
improved on the following slide:

Back