Research talk 101

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June 29th 2007
Purpose of a research talk

Is not to

- Impress the audience
- Tell them all you know about a subject
- Present every little detail of your work

Is to

- Give the audience a sense of what your idea/work is
- Make them want to read your paper
- Get feedback on your work
Know your audience
Know your audience

Who would be there?

- Scientists expert in your field
- Scientists not expert in your field
- Students
- Non experts
- Who knows?

Most likely a mix so have something for all
Know your audience

- Keep in mind
  - They might be tired
  - They can read 😊
  - They are thinking “Why should I listen?”
  - Non-experts will tune off within 2 minutes
  - Experts after 5 minutes

- What can you do?
What can you do?

- **Early motivation** - at the beginning of your talk motivate your research with easy to understand examples
- **Spoil the punch line** - State your results early and in simple terms
- **Visuals** – Illustrate your idea with images and diagrams
Leave them with these thoughts

- I understood what the problem was and why it was important
- I have an idea of what her solution was and how it was different/better than others
- She knows the literature (i.e. quoted my work 😊) and we might collaborate on this aspect of her research
Use examples

Examples are your weapon to

- Motivate your work
- Illustrate the basic intuition
- Show your solution in action (baby problem)
- Highlight extreme cases or shortcomings

If you are running out of time cut the general case not the example
Where were you?

People will get lost during your talk, even those who are listening

- have a running outline of the main steps of your idea (more than the talk itself)
- use visual clue to highlight where you are in the process
- present it at the beginning of each step
Related work

- Be familiar with all related work
- Don’t list each paper you read
- Mainly talk about results that are immediately related to what you did
- References at the end of the talk or better in the paper itself
- Acknowledge co-authors (title slide)
Technical details: in or out?

A fine line

- Present specific aspect that show the “meat” of your work
- Leave the rest out. If you were convincing they will read your paper
- Don’t fill up your slides with lots of equations
- Prepare back-up slides to answer questions. Leave them at the end of the presentation
The skeleton

- What is the problem
- Motivation and goals
- Relevant state of the art
- What is your key idea/contribution
- Why is your approach good/better
- What I just said and what I want to do next
Preparing the presentation

- Less is more. Fill in with narration not words
- Use animation sparingly
- Use color to emphasize some points but limit to 2 or 3
- Be consistent! In the choice and use of color font size/type etc
- Use slide real estate appropriately
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 layout – 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
Fonts - Good

- Use a decent font size.
- Use different size fonts for main points and secondary points:
  - This font is 24-point, the main point font is 32-point, and the title font is 44-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
Color - Good

- Use font color that contrasts sharply with the background
  - 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**
  - Same for secondary points
- Trying to be creative can also be **bad**
Use backgrounds such as this one that are attractive but simple

Use backgrounds which are light

Use the same background consistently throughout your presentation
Background – Bad

- Avoid backgrounds that are distracting or difficult to read from
- Always be consistent with the background that you use
Graphs - Good

- Use graphs rather than just charts and words
  - Data in graphs is easier to comprehend & retain than is raw data
  - Trends are easier to visualize in graph form

- Always title your graphs
Graphs - Bad

<table>
<thead>
<tr>
<th></th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Balls</td>
<td>20.4</td>
<td>27.4</td>
<td>90</td>
<td>20.4</td>
</tr>
<tr>
<td>Red Balls</td>
<td>30.6</td>
<td>38.6</td>
<td>34.6</td>
<td>31.6</td>
</tr>
</tbody>
</table>
Graphs - Good

Items Sold in First Quarter of 2002
Graphs - Bad

- January: 20.4
- February: 36.6
- March: 90
- April: 31.6

- Blue Balls
- Red Balls
Graphs - Bad

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

- Prepare the slides in advance
- Show them to friends
- When you think you are done read them again
- Check all animations with the sound on 😊
Preparing the presentation

- Practice, practice, practice
  - Give a practice talk to a general audience
  - Give a practice talk to an audience of expert
  - Time your presentation (allow for speed up effect caused by nervousness)

- Always assume technology will fail you. Have backups.
Delivering the talk

- Be enthusiastic! If you aren’t why should the audience be?
- Make eye contact with the audience
- Identify a few “nodders” and speak to them
- Watch for questions. Be prepared to digress or brush off when irrelevant
Delivering the talk

- Point at the screen not the computer
- Do not read directly from the PPT or your notes
- Have the “spill” for the first couple of slides memorized in case you go blank
- Finish in time
Handling questions

- Different types – handle accordingly
  - Need clarification
  - Suggest something helpful
  - Want to engage in research dialog
  - Show that he/she is better than you

- Anticipate questions (additional slides)

- Don’t let them highjack the talk (postpone)
How can I get better?

- Practice every chance you can
- Observe others
  - Steal good presentation ideas
  - Notice all the things that turned you off
- Seek comments from friends and mentors
Some resources

- http://wit.tuwien.ac.at/research/tips/good_research_talk_slides.pdf
Some resources

- http://www.cse.buffalo.edu/~rapaport/howtowrite.html
- http://www.iasted.org/conferences/formatting/Presentations-Tips.ppt