PRESENTING YOUR RESEARCH PROJECT

What you need for your presentation and how to make your PowerPoint

PARTS OF YOUR PRESENTATION

1. Introduction
2. Research Question (Hypothesis)
3. Materials and Methods
4. Results
5. Analysis and Conclusion
6. Closure
INTRODUCTION

• One or two sentences that describes your topic.
• Try to use a visual to illustrate the what your research involved (photograph, drawing, graph, etc)
• Don’t use a lot of text in your introduction.
• Keep it Simple

HYPOTHESIS

• Briefly state your hypothesis describing your independent and dependent variables and what measurements you were looking for in your dependent variable.
WHAT IS A HYPOTHESIS?

• A clear statement of what is intended to be investigated and should be stated before the research.
• Hypotheses are not moral or ethical statements
• It can be tested – verifiable or falsifiable
• It is neither too general or too specific
• It is a prediction of consequences of treatment
• It is considered valuable even if proven false

EXAMPLES OF HYPOTHESES

• Example: If skin cancer is related to ultraviolet light, then people with a high exposure to uv light will have a higher frequency of skin cancer.
• Example: If leaf color change is related to temperature, then exposing plants to low temperatures will result in changes in leaf color.
• Example: If the rate of photosynthesis is related to wave lengths of light, then exposing a plant to different colors of light will produce different amounts of oxygen.
• Example: If the volume of a gas is related to temperature, then increasing the temperature will increase the volume.
EXAMPLES OF HYPOTHESES

• If students work in groups there will be increased discussion of objectives of the lesson.
• If students are allowed to develop the lesson objectives (lab questions or lab hypotheses) there will be increased discussion (showing ownership) during their lab activity.
• If students are allowed to develop the lab questions there will be increased priority given to evidence during their lab activity.
• If students are allowed to develop the lab questions, there will be increased priority given to formulating explanations during their lab activity.
• If students are allowed to develop the lab questions there will be increased priority given to connecting explanations during their lab activity.
• If students are allowed to develop the lab questions there will be increased priority given to justifying explanations following their lab activity.

MATERIALS AND METHODS

• Provide just enough information about your methods so that the audience will understand how you collected data.
• Describe your constants and control
• Use photographs during the experiment to tell the story
  • Use photographs of the experimental set-up and data collection
  • Use a simple table to describe your experimental design
  • Take notes on students specific discussion patterns and time spent
  • Ask student to explain their results using explanations written on a whiteboard

<table>
<thead>
<tr>
<th>Control Group</th>
<th>Experimental Group #1</th>
<th>Experimental Group #2</th>
<th>Experimental Group #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No potassium (K+)</td>
<td>5.0 g K+</td>
<td>10g K+</td>
<td>15g K+</td>
</tr>
</tbody>
</table>
RESULTS

• Display and explain your results clearly.
• Use tables and figures such as graphs
  • When presenting your work explain the tables and figures
  • Add photographs of the results from the experiment and control group

Results – Using a Bar Graph
Pie Charts and Bar Graphs Showing Same Data

Women are more likely to attend the day classes, while men are more commonly found in the evening class.

Results using a Line Graph – Most of your data should be represented using a line graph.

Flashlights (medium drain device)

Graphs must have a Title

Must have a legend if displaying more than one graph.
ANALYSIS AND CONCLUSION

• Summarize your conclusions regarding your research.
• Remind the audience of the connection to your hypothesis.
• Describe how this design produced reliable results that were supported/not supported by the data.
• Explain how you reached the conclusion.
• Describe any limitations (time, supplies, uncontrolled variables, etc) and what you could have done to eliminate these factors.

CLOSURE

• Make a statement about the relationship between the independent variable and the dependent variable.
• Tell the audience how confident of your results.
• Tell the audience what you learned and how the knowledge from this study can be used.
PREPARING THE POWERPOINT PRESENTATION

• Average not more than 1-2 slide per minute
• MS Powerpoint is now standard
  • If you use something else, be careful to check it in advance
• No sounds! Some logical animations good
• Use 3-7 bullets per page
  • Avoid writing out, and especially reading, long and complete sentences on slides because it is really boring to the audience
• Slide appearance (font, colors) should be consistent, not flashy
• Spellcheck

WHAT FONTS TO USE

• Gills Sans
• Century Gothic
• Rockwell
• Garamond
• Times New Roman

• All of the above fonts are 22 Type set – Size is determined by the size of the room
WHAT TYPE SIZE TO USE

Type size should be 18 points or larger:

- 18 point
- 20 point
- 24 point
- 28 point
- 36 point

AVOID USING ALL CAPITAL LETTERS BECAUSE IT'S MUCH HARDER TO READ

* References can be in 12-14 point font

http://www.fw.msu.edu/orgs/gso/documents/GSOWorkshopDocsSp2006/PresentationTipsinPowerPoint.ppt#3
07.6, Powerpoint basics: 1. What font to use

COLOR

Dark letters against a light background work

Dark letters against a light background are best for smaller rooms, especially when the lights are on for teaching

http://www.fw.msu.edu/orgs/gso/documents/GSOWorkshopDocsSp2006/PresentationTipsinPowerPoint.ppt#302
05, Powerpoint basics: 1. What font to use
Color

Light letters against a dark background also work.

Many experts feel that a dark blue or black background works best for talks in a large room.


Cartoon Tips

Make it Interesting
Make it Understandable

Don’t Read Your Slides

“OK, I’m now going to read out loud every single slide to you, word for word, until you all wish you’d just die.”
Keep it Short