



Scientific Presentations and Project report

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OUTLINE:

1. How to make scientific presentations
2. How to write a project report
3. Managing your references
4. Presentation

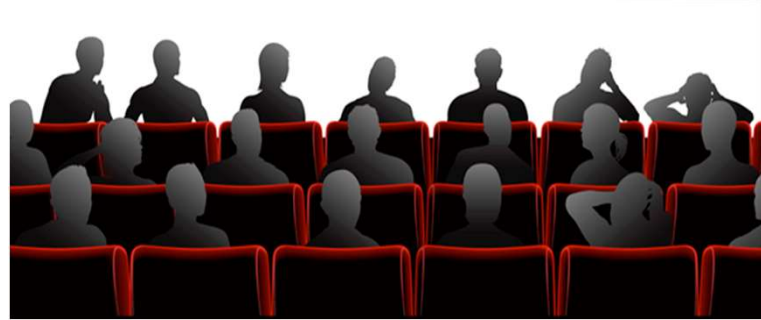
SCIENTIFIC PRESENTATIONS

The 4 P's of effective presentations

- ❖ Plan
- ❖ Prepare
- ❖ Perform
- ❖ Persuade

Plan:

1. Get a topic (Must be recent)
2. Analyze your audience
3. Gather information
4. Establish your key message



Prepare:

Introduction

- ❖ Tell them what you are going to tell them
- ❖ State your main conclusion or message
- ❖ Consider a dramatic opening

Body of the presentation

- ❖ Limit to one theme or goal
- ❖ Provide supportive messages
- ❖ Keep listeners updated on the current state of the topic

Conclusion

- ❖ Summarize what you have just told them
- ❖ Reinforce the core message
- ❖ Include a call for action
- ❖ End with a quote, joke, or echo back to the beginning

Prepare: PowerPoint(s)

Use:

Vivid images
Short sentences
An active voice
Alliterations and metaphors
Use statistics sparingly
Keep it short
References
Large prints
Two-third of the page
Number your slides

Avoid:

Jargons
Clouded text
Small text

Prepare: Using Visuals

- Use as a complement to the message
- Don't over-use visuals
- Test drive the technology

Rehearse

- Use a mirror, tape recorder, video
- Get feedback from objective observers
- Refine the presentation

Perform:

Voice

- Speak slowly and clearly
- Vary your inflection and pace
- Pause regularly
- Maintain eye contact

Body Language

- Stand straight but not stiffly
- Smile and relax your face
- Don't fidget
- Don't overuse hand gestures

Appearance

- Dress to impress
- Avoid extremes

Persuade:

Leave time for questions

Use references

Keep the message clear

Repeat critical information

Make people want to buy-in

Be engaging

Don't try to defend your ignorance

Writing a seminar report

1. Cover page
2. Table of content
3. Abstract
4. Introduction
5. Body
6. Conclusion
7. References

Project Report

Part 1: Lab work



Part 2: Writing



Communicating results of an investigation in a clear and useful way is a key part of science

What next ?

Get a project topic

Become knowledgeable on the topic

Get materials (at least 20 published articles)

Google

Google scholar

Agora

Scopus

PubMed



University library

Get a research protocol

Lab work

Write

Writing a project report:

Departmental format

Title page

Certification page

Table of content

Abstract

Introduction

Literature review

Materials and methods

Results

Discussion

Conclusion

References

Abstract:

- The idea of the abstract is to provide a brief summary of the report.
- Should be one paragraph
- Should give the reader an insight into the purpose of your research, what has been done, how it was done, the results obtained and the conclusion arrived at
- Must not contain reference
- Must be complete, concise, clear and cohesive

Introduction:

The purpose of the Introduction is to stimulate the reader's interest and to provide pertinent background information necessary to understand the rest of the paper.

Begin the Introduction by providing a concise background account of the problem studied.

State the objective of the investigation. (*Your research objective is the most important part of the introduction*).

Establish the significance of your work: Why was there a need to conduct the study?

...introduction

Provide a concise discussion of the results and findings of other studies so the reader understands the big picture

Clearly state your hypothesis

Move from general to specific: from the problem in the real world to the literature to your research

Write in the present tense except for what you did or found, which should be in the past tense

Be concise

Literature review:

The literature review shows that you have read, and that you have a good grasp of, the main published work concerning your topic

Must not simply be only a description of what others have published in the form of a set of summaries

Should take the form of a critical discussion, showing insight and an awareness of differing arguments, theories and approaches.

It should be a synthesis and analysis of the relevant published work, linked at all times to your own purpose and rationale.

...Literature review:

1. Compare and contrast different authors' views on an issue
2. Group authors who draw similar conclusions
3. Criticise aspects of methodology
4. Note areas in which authors are in disagreement
5. Highlight exemplary studies
6. Highlight gaps in research

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7. Show how your study relates to previous studies
8. Show how your study relates to the literature in general
9. Always acknowledge opinions which do not agree with your thesis. If you ignore opposing viewpoints, your argument will in fact be weaker

Things to avoid when writing a Literature review:

- ❖ Avoid colloquialisms and personal language
- ❖ Don't disrespect others' opinions
- ❖ This is not the place for emotive language or strong personal opinions
- ❖ If you thought something was rubbish, use words such as "inconsistent", "lacking in certain areas" etc.

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- ❖ When introducing someone's opinion, don't use "says", but instead an appropriate verb which more accurately reflects this viewpoint, such as "argues", "claims" or "states"
- ❖ Use the present tense for general opinions and theories, or the past when referring to specific research or experiments

Literature review: Example

The microbiological and physiochemical quality of sachet-packed water in Nigeria has been studied quite extensively (Orisakwe et al., 2006; Olaoye and Onilude, 2009; Oyedeji et al., 2010; Edema et al., 2011; Adebayo et al., 2012; Muazu et al., 2012; Omalu et al., 2012; Onilude et al., 2013). All of these studies reported that the majority of sachet-packed pure waters sold in Nigeria were heavily tainted by pathogens and, therefore, unsafe for consumption. A similar situation has also been reported in sachet waters from Ghana (Addo et al., 2009; Ackah et al., 2012). Two studies from both countries particularly reported high levels of lead, far above the recommended limit (Orisakwe et al., 2006; Ackah et al., 2012).

Materials and methods:

- ❖ Explain clearly how you carried out your study

 - Describe the organism(s) studied

 - Provide a description of the study site (Field study)

 - Experimental or sampling design

 - Protocol

 - How the data was analysed

- ❖ **Key:** Describe the procedures for your study in sufficient detail that other scientists could repeat your work to verify your findings

- ❖ Report this section in past tense

Results:

- ❖ Objectively present your key results, without interpretation, in an orderly and logical sequence using both text and illustrative materials (Tables and Figures)

- ❖ Always begin with text

(Twenty-five percent of samples investigated were found to ...)

(25 % of samples investigated were found to ...)

- ❖ All Tables and Figures must be referred to in the text

- ❖ Tables and Figures must be presented in the order in which they are reported in the text

Some problems to avoid:

- ❖ **Do not** reiterate each value from a Figure or Table - only the key result or trends that each conveys.
- ❖ **Do not** present the same data in both a Table and Figure
- ❖ **Do not** report raw data values when they can be summarized as means, percents, etc.
- ❖ Problem with negative results

Discussions:

- ❖ The aim is to interpret your results in light of what was already known about the subject of the investigation, and to explain our new understanding of the problem after taking your results into consideration
- ❖ Organize the Discussion to address each of the experiments or studies for which you presented results
- ❖ Discuss each in the same sequence as presented in the Results
- ❖ You must relate your work to the findings of other studies
- ❖ Be concise and make your points clear

Fundamental questions to answer:

- ❖ Do your results provide answers to your testable hypotheses? If so, how do you interpret your findings?
- ❖ Do your findings agree with what others have shown? If not, do they suggest an alternative explanation or perhaps an unforeseen design flaw in your experiment (or theirs?)
- ❖ Given your conclusions, what is our new understanding of the problem you investigated as outlined in the Introduction?
- ❖ If warranted, what would be the next step in your study, e.g., what experiments would you do next?

Conclusion:

Summary of your research findings, in relation to the initial hypothesis

Referencing:

- ❖ Referencing is an important part of academic writing
- ❖ It lets you acknowledge the ideas or words of others if you use them in your work
- ❖ It helps you avoid plagiarism
- ❖ Referencing also demonstrates that you've read relevant background literature and you can provide authority for statements you make

Citing references:

Harvard referencing style

BOOK: SINGLE AUTHOR

In-Text Example:

(Holt, 1997) or Holt (1997) wrote that...

Reference List Example:

Holt, D.H. (1997). *Soil Microbiology*. 1st ed. Prentice-Hall, Sydney. Indiana University Press.

BOOK: 2 AUTHORS

In-Text Example:

(William & Pascale, 1997)

Reference List Example:

William, D.P. & Pascale, G.Q. (1997). ...

Book: 3 or more authors

In-Text:

(Bond *et al.* 1996) or Bond *et al.* (1996)

Reference List:

Bond, W.R., Smith, J.T., Brown, K.L. & George, M. (1996).

...

Book: editor

In-Text:

(ed. Jones 1998)

Reference List:

Jones, M.D. ed. (1998). *Management in Australia*. London: University Academic Press.

Book: chapter or article in edited book

In-Text:

(Milkman, 1998)

Reference List:

Milkman, R. (1998). The new American workplace: high road or low road. In: P. Thompson, & C. Warhurst, eds. 1998. *Workplaces of the future*. Oxford: Oxford University Press. pp. 22-34.

Book: different works by same author in same year

In-Text:

(Bond 1991a) (Bond 1991b)



Analytical Methods

Genotoxicity of processed food items and ready-to-eat snacks in Finland

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ABSTRACT

Processed foods are an insufficiently characterized source of chemical mutagens for consumers. Here, we evaluated the genotoxicity of selected food products in Finland. Mutagenicity was determined by the standard plate incorporation assay followed by methylcellulose overlay and treat-and-wash assays, using the *Salmonella* strains TA 100 and 98 with and without metabolic activation. Generally, the mutagenic activity of food samples was low, but exhibited lot-wise variation. Cold cuts of cold-smoked beef, grilled turkey, and smoked chicken (a single batch of each) were mutagenic in all three assays with the TA 100 strain with and without metabolic activation, indicating the mutagenic effect was not secondary to histidine release from the food products. However, none of the food extracts showing mutagenic potential induced DNA damage in vitro using the Comet Assay. Our findings imply that in Finland today, there are still products the production methods of which should be refined to reduce the potential risk of mutagenicity to consumers.

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Journals: One to two authors

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Journal: with more than two authors

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Reference list:

Omoruyi, I.M., Odeh, H.O. & Pohjanvirta, R. (2014). ...

Managing your references

Reworks:

<http://www.refworks.com/refworks2/default.aspx?r=references|MainLayout::init>

**Thank you for your
attention**

