Oral Presentation & Report Writing Workshop

Lee Kong Chian Faculty of Engineering and Science

Date: 21 February 2020
Venue: KB 208

Arrangement of FYP report/presentation part 1

- FYP report title
- Introduction
  - General Introduction
  - Importance of the Study
  - Problem Statement
  - Aims and Objectives
- Scope and Limitation of the Study
- Literature review
- Methodology and Work plan
- Preliminary Results (optional)
- Problems and Recommended Solutions
- References
- Appendices (optional)

Minimum 20 pages

Arrangement of FYP report / presentation part 2

- Acknowledgement
- Abstract
- Introduction
  - General Introduction
  - Problem Statement
  - Importance of Study
  - Aims and Objectives
  - Contribution of Study
- Outline of the report
- Literature Review
- Methodology and Work Plan
- Results and Discussions
- Conclusion and Recommendations
- References
- Appendices

Maximum 80 pages excluding appendices

Highlight in red is item needed for presentation slides

FYP report printing

All reports must be double sided printing
Helping Students Write Effective FYP Report & Avoid Common Mistakes

EXAMPLE

Always used latest template!

Avoid Common Mistakes

EXAMPLE

Table 2.2: Processing Time for Different Production Line

<table>
<thead>
<tr>
<th>Bread</th>
<th>Production Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>B</td>
<td>23 22 32 25 30</td>
</tr>
<tr>
<td>C</td>
<td>17 31 24 22 29</td>
</tr>
</tbody>
</table>

Table 3.1: Processing Time (in hours) of Bread for Different Production Line

<table>
<thead>
<tr>
<th>Bread</th>
<th>Production Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>B</td>
<td>23 22 32 25 30</td>
</tr>
<tr>
<td>C</td>
<td>17 31 24 22 29</td>
</tr>
</tbody>
</table>

Location of Figure(s)

You need to direct the reader’s attention to relevant graphs, data or information.

Figure 3.2 displays the mean percentile scores on the four subtests for non-immersion and immersion French students.

Four subtests for non-immersion and immersion French students.

Figure 3.2: Mean percentile

Example
Before submitting your FYP report to Turnitin

**REFERENCES**

[Be sure to mind before using the turnitin software to check the plagiarism. *Please remove all the references to prevent the plagiarism from being detected.*]

**Appendices**

**APPENDICES**

- Project awards, Poster competition, exhibition, etc.
- Publications, Conference paper, Journal paper, etc.

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**Characteristics of a report**

- Relevance
- Contents
- Clarity and simplicity
- Comprehensiveness
- Precision and accuracy
- Orderliness and continuity

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**Relevance of Topic**

- Topic of the report must be very relevant to the targeted readers (supervisors, examiners, actual users, etc.)

- Contents of the report must discuss the details of the relevant topic and work done in the FYP.

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**Good and Enough Contents**

- The report should have good and enough contents.

- It should cover various aspects of the topic. For example, if the performance of a cooling system is discussed, it should cover its performance with respect to heat transfer coefficient, pressure drop, mass flow rate, etc.
Clarity and Simplicity

- A good report may not necessarily be a complex report, rather the contrary is true most of the time.
- Clear and simple thinking which is necessary for scientific investigation must be reflected in one's writing.

How to achieve clarity and simplicity?

- Express the views in a very straightforward manner.
- Try not to use unnecessary long sentences and complex words.
- Avoid using technical jargons if possible without altering actual meaning of the sentence.

Comprehensiveness

- Writing should be complete, comprehensive and self-contained.
- Necessary information has to be included in a concise form.
- Logical conclusion must be drawn in an orderly fashion.

Precision and accuracy

- FYP students must write with precision.
- Use of vague, superfluous words like *substantial amount, enough improvement* are strongly discouraged.
- Use number to show accuracy and precision in writing.
Example

- Experimental results show **substantial** improvement in the surface roughness when compared to the previous method.

- Experimental results show **about 20%** improvement in the surface roughness when compared to the previous method.

Orderliness and continuity

- The most important feature of a good report is its orderliness and continuity.

- A report without proper order and continuity, the readers lose interest and authors lose chance of getting good grade for the report.

- So every section should be arranged in an orderly manner and a smooth flow should be maintained throughout the whole report. It should be like telling a good story.

Tips for Good Writing

- Use words from standard English.

- Technical terms have to be explained properly so that readers from other subject area understand properly.

- Abbreviations have to be written in full when first used and then abbreviated in the parentheses.

- Repetition of the same word on a same sentence or in the same paragraph is discouraged.

Tips for Good Writing (contd.)

- Unnecessary qualification of words should be avoided. Some examples are,

<table>
<thead>
<tr>
<th>Incorrect way</th>
<th>Correct way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolutely Perfect</td>
<td>Perfect</td>
</tr>
<tr>
<td>Conclusive proof</td>
<td>proof</td>
</tr>
<tr>
<td>Small in size</td>
<td>small</td>
</tr>
</tbody>
</table>
Numbers should be used in the format given below:

<table>
<thead>
<tr>
<th>Right form</th>
<th>Wrong form</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 999</td>
<td>9,999</td>
</tr>
<tr>
<td>0.25</td>
<td>.25</td>
</tr>
<tr>
<td>50 W</td>
<td>50W</td>
</tr>
<tr>
<td>20 °C</td>
<td>20°C or 20° C</td>
</tr>
</tbody>
</table>

Color of the line of a graph should be chosen in such a way that after printing it doesn’t become blur (e.g. yellow).

Tables, graphs, figures have to be numbered properly.

If the amount of data is huge it will be preferable to represent it in a form of graph rather than in a table, and that will be easier for a reader to interpret the trend at one glance.

Information provided in a table should not be repeated in a graph in the same report.

A good report should be revised several times before submitting to the supervisor.

Check whether the report is written in good standard English.

Check if any superfluous words have been used and try to minimize those if used.

Check the continuity of the composition.
Presenting the Acknowledgement

Acknowledgement

- The acknowledgement section highlights the contributions of the funding authorities, the contributions of the persons who helped some way in this work.

Copyright and Content

- You need to obtain permission from respective parties when using figure or table from the internet source/journal for the report writing.
- Acknowledge them in the acknowledgement section.

Obtaining permission to use Content on ScienceDirect

1. Locate your desired content on ScienceDirect.
2. Determine if the content is open access or subscription access.
3. Click on the ‘Get rights and content’ button located under the author details, adjacent to the DOI.
Obtaining permission to use Content on ScienceDirect
4. The following page will then be launched (turn off your pop-up blocker):

5. Select the way you would like to reuse the content.
6. Create an account if you have not done so already.
7. Accept the terms and conditions.

Obtaining permission for other sources
1. E-mail/write in to the authors/publishers to obtain the permission.

Presenting the Introduction

- Allows the reader to quickly grasp the rationale and purpose of the research.
- Introduction should contain what have been done so far in the respective field of research and what are the problems left over to justify what one has done.
- Clear in focus without unnecessary and irrelevant information.
- In invert Pyramid style.

Writing the Introduction
Three level of ideas in introduction

<table>
<thead>
<tr>
<th>Level</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Area</td>
<td>Ideas which are broadly related to the research reported in the thesis</td>
</tr>
<tr>
<td>Sub-area(s)</td>
<td>Ideas which are more closely related to the research reported in the thesis</td>
</tr>
<tr>
<td>Key Topic</td>
<td>Idea which are very closely related to the research reported in the thesis</td>
</tr>
</tbody>
</table>

Presenting the Problem statement

Example

Three level of ideas in introduction

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Presenting the Problem statement

- Inadequacy and limitations of previous literature, ignoring an important aspect of the research area;
- Existence of unresolved conflict among the authors of previous studies concerning the research topic;
- Suggestion of an extension of the topic or the raise of a new research question not previously considered by others in your field. …

Example

51. Computer numerical controlled (CNC) machining is a material removal process performed according to pre-generated codes, the NC codes, which contain coordinates information to guide the cutter in a reference coordinate system. 52. The NC codes are generated according to the designed part CAD model. 53 Try-out of the codes are needed to determine a final one which will be used to produce a machined workpiece within allowed tolerances to the CAD model. 54. The try-outs, before CNC machining simulation technology emerged, were usually produced by obtaining soft and inexpensive material to lessen the manufacturing cost and shorten the cutting time. 55. An alternative mechanism that is available in virtual reality (VR) based CNC machining simulation technology. 56 Using this technology, designers and manufacturers are allowed to inspect the cutting processes in a virtual environment (VE) and to report the cutting results, not only geometric but also physical results, interactively. 57. Numerous simulation systems of this type have been introduced and are available on the shelf in the market now.

58. A concept parallel to VR is Augmented Reality (AR), a term that is frequently mentioned nowadays. 59. In an AR environment, virtual information (such as texts, images and videos) is provided to the user by superimposing them over the real world. 60. With this combined world, the user will have a better understanding of the environment through object-oriented illustrations and the guidance provided to him.
Signal words for problem statement

- Sentence connectors: however, nevertheless, yet, unfortunately, but
- Negative quantifiers: no, little, few, neither... nor
- Lexical negation: fail, lack, overlook, inconclusive, complex, misleading, elusive, scarce, limited, questionable, failure, limitation.

Example

Problem statement for the current study of surface conductivity and gas sensing on carbon materials are summarized below:

Since the mechanism for surface conductivity of hydrogen terminated surface on diamond is still unclear, different controversial models have been proposed. The mechanism becomes even more complex when different adsorbents instead of water are introduced to study the H-diamond conductivity.

- Although hydrogen terminated diamond has been used as a sensor to detect various gases like ammonia, carbon monoxide, nitrogen monoxide, carbon monoxide, hydrocarbon, etc. Its detailed mechanism has yet to be explored and understood. All models proposed currently are based on electron transfer doping model. It is debatable whether this model is able to show the surface conductivity change on hydrogenated diamond.

- There are two different models to describe the mechanism growth of carbon nanofibre. However, none have used in situ high-resolution TEM to investigate its mechanism during growing process.

- Currently, there are few studies on kinetic and sensitivity of gas sensing on hydrogenated diamond and carbon nanofibres.

Presenting objectives

- Negation in the verb phrase: not, rarely
- Questions or problems: A question remains whether ...; A key problem in ... is ...
- Expressed needs/desires/interests: It is of interest to compare ...; It is desirable to perform test calculations ...
Purpose

➢ A short sentence outlining purposes/aims, or stating the nature of the present research or research questions/hypotheses

➢ Announcing principal findings/stating value of research

➢ Outlining theoretical position

➢ Describing methods

➢ Indicating report structure

Signal words for objectives

➢ To investigate…

➢ To identify…

➢ To determine …

➢ To develop…

➢ To find…

➢ To clarify …

➢ To optimize…

➢ To design…

Phrases used for objectives

In the first/second / final part of this study …

The overall/main aim of …

More specifically, the aims of this study…

This study proposes/discusses/presents …

… by comparing/evaluating/analysing…

…using the framework/strategy of …. … an exploratory study …

… a new approach / (theoretical) framework …

… a detailed analysis of …

… a systematic/comprehensive investigation of …

Example

The main aim of this study was to propose a surface conductivity mechanism on hydrogen terminated diamond to describe how the p-type hydrogenated diamond can be used as a sensor to detect toxic gases. The specific objectives of this research were to:

• Propose an alternative model for the mechanism of surface conductivity of hydrogenated diamond.

• Study the reaction mechanism of various gases like oxygen, air, water vapour, ammonia, hydrocarbon, hydrogen, carbon tetrachloride, carbon tetrachloride and carbon tetrabromide when absorbed on hydrogenated diamond for sensor application.

• Investigate the proper mechanism growth of corn-shaped carbon nano fibres using x-ray high resolution transmission electron microscopy.

• Investigate the sensitivity and reaction kinetics of different gases on hydrogen terminated diamond surface and carbon nano fibres.