

Introduction to PhD Proposal Writing

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Orientation Training for RSIF Cohort 4 PhD Scholars
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The PhD proposal

- Objective of writing a proposal:
 - **Describe what** will be done, **why** it should be done, **how** it will be done and **what** will be the expected result.
- The proposal reflects the following:
 - Understanding of the research topic
 - Commitment and ability for the PhD study
 - Potential as a research scientist
 - Ability for independent critical thinking and analysis.



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The PhD proposal

- The proposal:
 - Is a guide of the work that will be done
 - Helps monitor the progress
 - A flexible '*contract*' between the scholar and university
 - Verifies that the proposed project is *focused, innovative, significant* and *feasible*.



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Expectations



The proposal can be challenging to write. However, undertaking a PhD is challenging, so the proposal is good training.



You do not need to have a PhD degree to write a PhD research proposal.



At the beginning of your PhD, you are not expected to be a world expert in your subject.



You have a good level of knowledge of your research area and understand how your research will make an important contribution to the subject.

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Getting ready to write

- Discuss the proposed project with your supervisors
- Read extensively in your area of interest
- Discuss with your research group and other students
- Identify the important 'gaps' in your area of interest
 - Identify how to address those 'gaps'
- Discuss further with your supervisors
- Read more....
- and write the proposal !!



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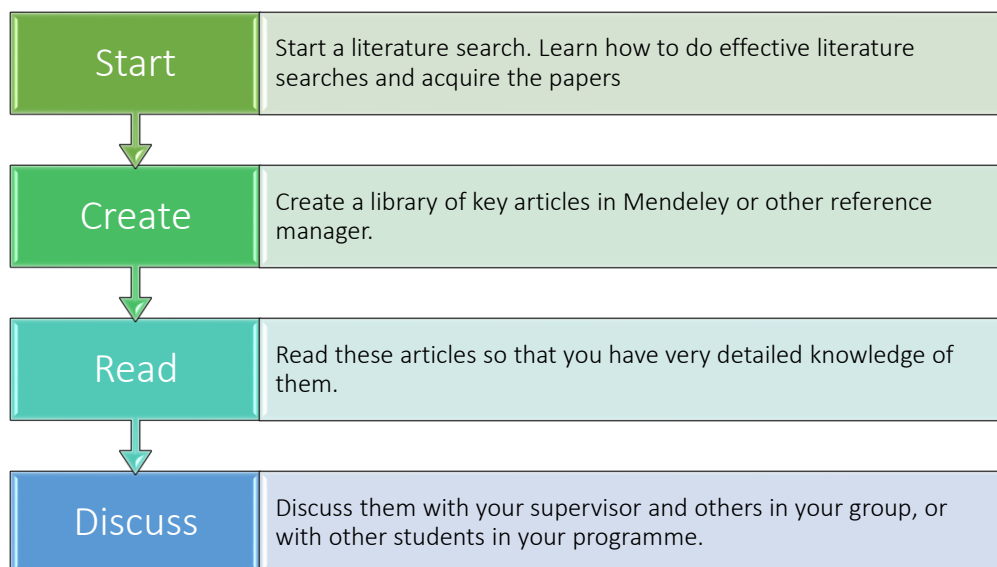
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Know the literature

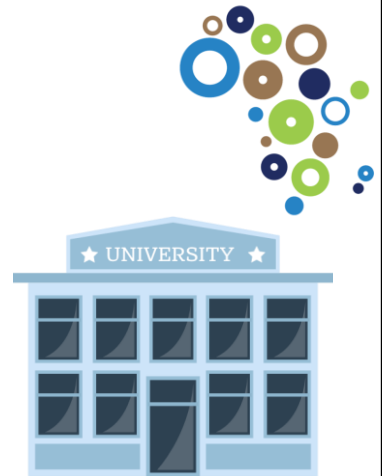


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University requirements for the PhD proposal

- Each university has its own guidelines
- Follow the university guidelines on writing a PhD proposal
 - The format may vary between
- The overall goals of the proposal will be the same, regardless of university



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Structure of a PhD proposal

- Title page, endorsement page
- Table of contents. List of Figures. List of Tables. Appendices.
- Abbreviations
- Acknowledgements
- Abstract
- **Chapter 1:** General Introduction, Problem Statement, Hypothesis/ Research Questions, Objectives, Expected results, impact and significance of the results, Scope and Limitations of the Research
- **Chapter 2:** Literature Review
- **Chapter 3:** Materials and Methods
- References
- Workplan
- Budget



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1] Title



- Should **accurately and briefly** communicate the contents of the proposal.
- Title can be broken down into a topic and a focus.
 - The topic of your research is the general 'area' of your research.
 - The focus is the specific problem you are investigating within that area.
- You may use a colon (:) to separate the topic from the focus
 - e.g. *Stormwater Harvesting: managing the hazards of surface water pollution by run-off.*

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Title - Examples



- *Effects of a programme for nutritional supplementation on malaria morbidity in children under 5 years in a hyper-endemic area for malaria in Sudan (2000-2002)*
- *Exploring Devices for Molecular Solar Thermal Energy Storage Systems*
- *Where proteins go to die: Elucidating the physiological and therapeutic significance of the Clp protease complex in Mycobacterium tuberculosis*

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2] Abstract

Background Residual accumulation of herbicide residue threatens the sustainability of rice-wheat rotation systems in northern Bangladesh. The incorporation of green manure into the soil may stimulate the co-mineralization of pesticides and their metabolites. A two year field experiment was conducted on the experimental station of the Bangladesh Rice Research Institute to evaluate the effects of the application of *Azolla pinata* and *A. caroliniana* as green manure on the mineralization and co-metabolization of the herbicides propanil and buthachlor in a flooded rice soil (Tropaquept) on the experimental station of Naranga. Hot acid soil column extracts are analyzed by liquid chromatography for the active compounds as well as their metabolites. Preliminary findings from the first funding phase indicate that the incorporation of *Azolla* resulted in a co-mineralization of Propanil within a 3 week period but had no effect on Alachlor in the 3-month study period. *Azolla* green manure use helps avoid residual accumulation of some herbicides.

Objectives

Material and methods

Findings

Conclusion



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3] Chapter 1: Introduction

Sections:

- General introduction
- Problem statement
- Justification
- Research hypotheses/questions
- Objectives
- Significance of the study
- Limitations



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i] General Introduction (Study Background)

- Write the General Introduction like an introduction to a scientific research article (in about 2 pages).
- Include the following information:
 - Context for the research
 - The specific problem to be solved
 - What will be done
 - What the research hopes to achieve



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ii] Problem statement

- The heart of a doctoral dissertation is the PROBLEM STATEMENT.
- The problem statement informs the reader why the study is being undertaken and its importance.



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What is the format for writing a problem statement?

The Ministry of Youth is dedicated to allocating enterprise development funds to both the youth and women. These funds are made available in order to start entrepreneurial ventures that create and expand employment.

One of the main focuses of the ministry is consistency. Unfortunately, consistency in allocating funds to the next generation of recipients requires prior knowledge of previous allocations and established practices. The current continuous disbursement method does not allow for adequate analysis of previous disbursements before a current disbursement is done.

Continuing with this current disbursement method prevents consistency and causes decisions to become grossly political, which in turn inhibits the achievement of the goals of the funds. Developing a more informed disbursement system could help better implement the consistency focus of the ministry and at the same time help the ministry better monitor and evaluate its funds. This proposed research aspires to explore options for a new funds disbursement system that would focus on consistency. To do this, the researcher will carry out a full stakeholder analysis and use it to propose appropriate policy interventions



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iii] Justification

- The justification or rationale explains why the research is necessary
 - What gaps it aims to fill in existing literature,
 - How it aims to add to the existing body of knowledge,
 - What solutions it aims to provide.



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iv] Research Questions/Hypotheses

Research Question

- This is the question(s) that you are trying to answer.
- Questions should be as specific as possible.

Research hypothesis

- A hypothesis is a statement that can be proved or disproved.
- A null hypothesis is a hypothesis to be disproved.



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Examples

Research Question

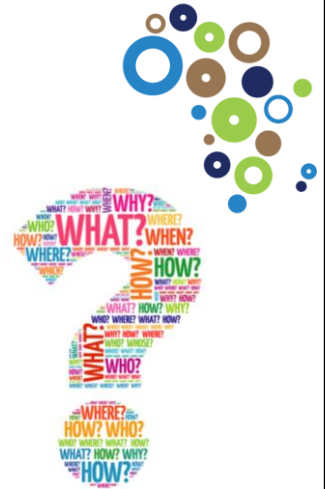
- What are the effects of sleep on reflexes?
- or
- Does sleep have an effect on reflexes?
- or
- Is maximum reflex efficiency achieved after eight hours of sleep?

Hypothesis

Maximum reflex efficiency is achieved after eight hours of sleep.

Null Hypothesis

- Maximum reflex efficiency is not achieved after eight hours of sleep.
- or
- Sleep does not have an effect on reflexes



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v] Research Objectives

Based on each of your specific hypotheses/questions.

- What do you want to know, prove, demonstrate, analyse, test, measure, determine, investigate or examine?
- Give an **overall objective**, and about **3-4 specific objectives**.
 - The objectives should be **SMART**
 - The specific objectives should be interrelated
- Each objective may form a results chapter in your thesis and a research paper



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vi] Expected results, impact and significance of the study

- It helps to establish the significance of the study.
- Based on the identified problems and proposed methodology, one can describe the expected results from the research.
- It may not be possible to predict the exact outcome of the study - the expected results need not be accurate.
- Define the overall outcome that can be expected from the research.



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vii] Scope and Limitations of the Research

- Scope and Limitations of the Research maybe a requirement by some universities
- Scope refers to the extent to which you plan to study your topic.
- Limitations refer to the possible shortcomings of the study.



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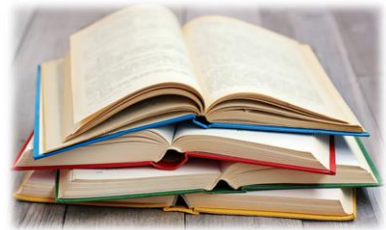


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4] Chapter 2: Literature Review

- Develop your proposal to demonstrate:
 - Awareness of the important issues, themes and debates in the relevant literature.
 - Knowledgeable in the current state of your subject.
- A PhD is an original piece of work and so you should demonstrate that your proposed area is novel.



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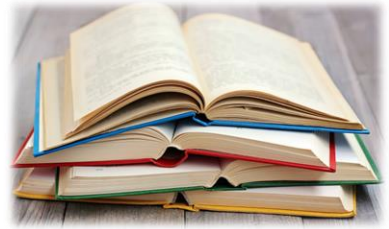


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Literature Review Shortcomings

- Lack of organization and structure
 - Lack of focus, unity and coherence
- Repetitive and wordy
- Failure to keep up with recent developments
 - Failure to cite influential papers
- Failure to critically evaluate cited papers
- Cite irrelevant or trivial references
- Depend too much on secondary sources



Penn Collins, Korea Maritime and Ocean University

https://www.researchgate.net/post/How_to_write_an_effective_research_proposal_for_PhD

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5] Chapter 3: Materials and Methods

i. Methods

- Highlight methods of investigation that will be used within the research.
- Provide justification why they are most appropriate.
- Discuss limits and potential problems you envisage.



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Chapter 3: Materials and Methods

ii. Research design and data collection

- Describe the design of the research approach
 - Field site description, the instruments that will be used, and particularly the data that one anticipates to collect.



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Chapter 3: Materials and Methods

iii. Data Analysis

- Explain in some detail how data will be analyzed in order to address the hypothesis/question.
- Includes the statistical or other techniques that will be used in processing the data.
- Justify why the data analysis methods have been selected.



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6] References

- References provide the reader with a good sense of your grasp on the literature.
- Reference articles and sources that play a large role in your analysis.
- Make sure you read the papers/articles (not just the abstract)



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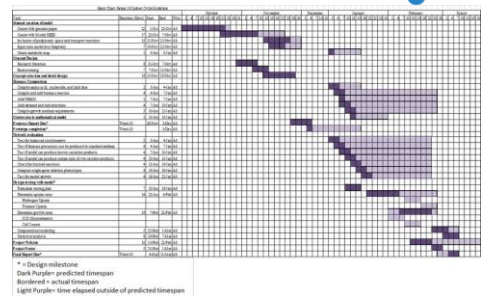


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6] Workplan

- A schedule of the research
- Give activities (as milestones) and how long each is envisaged to achieve
- Give logical sequence of the activities
- Include writing of papers and thesis
- Present in the form of a Gantt chart or table
- Indicate which activities will be done at the AHU and the IPI



<https://www.sydney.edu.au/study/how-to-apply/postgraduate-research/how-to-write-a-research-proposal-for-a-strong-phd-application.html>

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Follow the “3 Cs” rule

Ensure proposal follows the ‘3Cs’ rule:

- Clear
- Concise
- Coherent

Determine if your proposal is:

- Innovative
- Significant
- Feasible



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Acknowledgements and Further reading

- https://www.uc.pt/en/ftuc/dei/ensino/doctoral_program/PhDprop4
- http://www.salford.ac.uk/_data/assets/pdf_file/0005/381776/HowtoWriteaResearchProposal.pdf
- <https://www2.hawaii.edu/~matt/proposal.html>
- <https://www.adelaide.edu.au/graduatecentre/forms/admission/docs/admission-research-proposal-template-guide.pdf>
- https://www.exeter.ac.uk/media/universityofexeter/webteam/shared/postgraduate/pdfs/A_Guide_to_Writing_your_PhD_Proposal.pdf
- <http://blog.quoteroller.com/2013/10/01/how-to-write-a-phd-proposal/>
- <http://www.ed.ac.uk/files/imports/fileManager/HowToWriteProposal090415.pdf>
- http://www.meaning.ca/archives/archive/art_how_to_write_P_Wong.htm
- <https://www.elsevier.com/connect/11-steps-to-structuring-a-science-paper-editors-will-take-seriously>
- <http://dissertationrecipes.com/wp-content/uploads/2011/04/Creating-the-Problem-Statement.pdf>
- <http://www.pitt.edu/~super7/47011-48001/47721.ppt>
- <https://uwaterloo.ca/writing-and-communication-centre/active-and-passive-voice>
- <http://writing.umn.edu/sws/quickhelp/style/activepassive.html>
- <https://www.quora.com/Why-shouldnt-we-use-a-passive-voice-in-academic-writing>
- <https://www.aie.com/en/arc/editing-tip-first-person-third-person-who-are-these-people-my/>
- <https://www.editage.com/insights/the-basics-of-writing-a-statement-of-the-problem-for-your-research-proposal>



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Question and Answer
Question et réponse
Pergunta e resposta

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Acknowledgement
Donors directly providing financial support to *icipe*



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Thank you

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For more information contact

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