



Central University of
Technology, Free State

Tips for Postgraduate Students

Research and Development Graduate School



Compiled by:

Prof D Kokt • Prof B Khotseng • Prof LOK Lategan
Prof PG le Roux • Me J Nogabe • Prof A Shumba

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"Research is a systematic process of collecting, analysing and interpreting information."

Introduction

The aim of these tips is to provide post graduate students with some best practices in successfully completing their studies.

It deals with matters pertaining to what research entails, supervision, the structure of a research project and communication skills required by post-graduate students.

■ What is research, really?

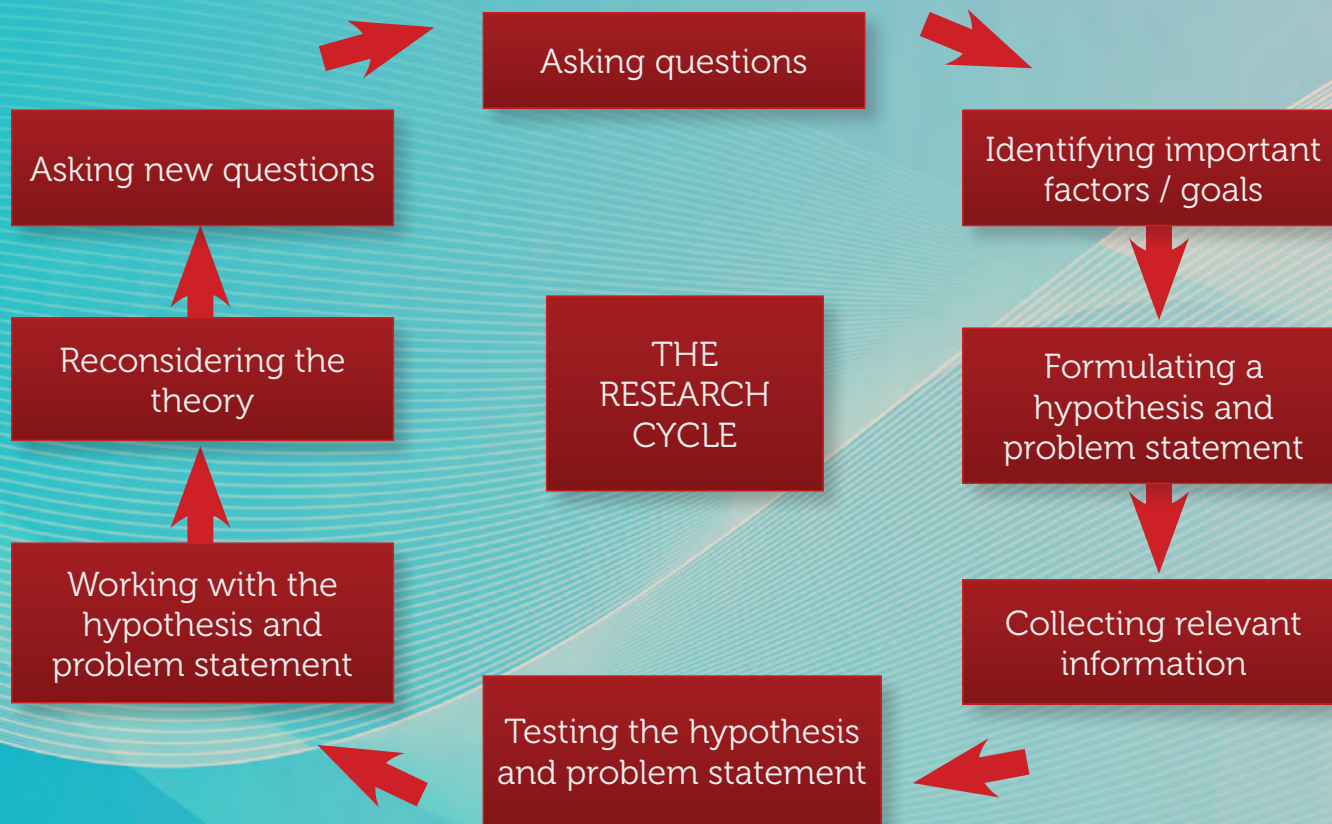
- ◆ Research is a systematic process of collecting, analysing and interpreting information (data) to increase our understanding of a particular phenomenon. Research is not routine work or testing. It is to generate new knowledge.

■ What is not research?

- ◆ Research is not a mere information gathering exercise.
- ◆ Research is not transporting facts from one location to another.
- ◆ Research is not rummaging for information.

■ Research involves the following:

- ◆ It means to close the gap on something unknown.
- ◆ It is a scientific and critical enquiry into a particular phenomenon.
- ◆ It requires analysis and synthesis on the part of the researcher which could lead to the creation of new theories, models and applications.
- ◆ This process produces new knowledge which could be used by governments, business and industry.



- Research typically has eight characteristics:
 - ♦ Research originates with a question or problem.
 - ♦ Research requires a clear articulation of a goal.
 - ♦ Research requires a specific plan for proceeding.
 - ♦ Research usually divides the principal plan into more manageable sub-problems.
 - ♦ Research is guided by the specific research problem, question, and hypothesis.
 - ♦ Research accepts certain critical assumptions.
 - ♦ Research requires the collection and interpretation of data in an attempt to resolve the problem that initiated the research.
 - ♦ Research is by nature cyclical.

Supervision

- ♦ The supervisor is the person that guides the student through the research process. The active engagement of a supervisor is essential in assisting post-graduate students in identifying a line of inquiry, delineating the scope of a project within that line of inquiry and providing guidance to lead to the successful completion of the project and the dissemination of results.
- ♦ The student and supervisor should know the foundations of research management. This could include project planning, performing empirical research and budgeting.
- ♦ Supervision in Master's studies should result in the student understanding research methodology and application of research instruments and tools.
- ♦ Supervision in doctoral studies should end in a detailed understanding of research methodologies, application of research methodologies, analysis and interpretation of results. The process should result in the creation of new knowledge.
- ♦ Students should have a work plan to follow, including the time frame and expected outputs from the project.
- ♦ Both the student and the supervisor should consider the financial implications of the research project. Comprehensive budgeting is thus required by the student in accordance with the inputs of the supervisor.

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Success factors and pitfalls for post-graduate students

- ◆ Do not be afraid to ask questions if you are in doubt or do not know.
- ◆ One should be informed on the topic to be researched. This will require the student to read, read and read. It is important to ascertain what has been done on a particular topic and how one's intended research could add to a particular body of knowledge.
- ◆ Be focused all the time - avoid delaying tactics and keep to its deadlines.
- ◆ Do not rush into decisions - play with your ideas for a day or two. Once ideas are documented make sure they are substantiated.
- ◆ Do not be intimidated by other people - learn from them.
- ◆ Do not be afraid of going slowly but be afraid of standing still.

The structure of a research project

- ◆ The research process commences with a research problem or question (the reason why research is undertaken). This provides an inception point that continuously guides the research process.
- ◆ Any research study should have a clear aim and problem statement that should be adequately reflected by the title. The problem statement is the crux that 'drives' the entire study. These components should be continuously aligned throughout the study.
- ◆ Any research investigation requires a review of literature and a researcher should acquaint him/herself with the current discussions/ trends/publications on a particular topic or phenomenon. This is crucial as the researcher should either add to the discussion on the topic or provide a new perspective.
- ◆ The literature review is a method through which current themes, topics, trends, etc of a particular phenomenon are systematically documented. This can only be achieved if the student continuously reads on his/her particular topic.
- ◆ In constructing a literature review, persuasive writing should be applied. This implies rational and logical arguments with the aim of persuading the readers that your investigation is reliable and your findings valid.
- ◆ It is further important that the title, problem statement and content of the literature review be continuously integrated with one another. The title should reflect the problem statement and the content should also address the title and problem statement.
- ◆ The empirical part of the research should also be logical, methodical and systematic.
- ◆ The methodology applied to a study should be clearly substantiated and explained.
- ◆ The most popular methods of data collection are questionnaire and interviews. The following should be kept in mind:



Academic Writing

- ◆ Keep the questions and instructions short and to the point;
- ◆ Provide clear instructions – general and/or per question (remember to have a 'not applicable' where relevant, and to state whether one or at most so many choices are allowed);
- ◆ Avoid ambiguity, confusion and vagueness;
- ◆ Avoid emotional, leading, discriminatory, biased, etc. questions;
- ◆ Avoid double-barreled questions – there should be unique or distinct possible answers;
- ◆ Avoid questions beyond the respondent's capabilities or memory span, as well as making predictions or engaging in guesswork.
- ◆ Students should understand why a particular technique/method was chosen and what type of conclusion(s) can be drawn.
- ◆ Ensure the accuracy of the terminology – descriptive statistics pertain to the respondent's answers and hence cannot be generalized, whereas inference with regard to the population must be commensurated with the level of significance.
- ◆ If a statistician is consulted the student should know what he/she wants to achieve.
- ◆ Through logical arguments and empirical data that are purposefully presented step-by-step *conclusions* should follow.
- ◆ *Recommendations* could follow from the conclusions reached.
- ◆ Academic writing should be recursive (meaning you move backwards and forward between the different writing stages) and iterative (meaning you revisit the stages frequently). Each piece of reading provides the "scaffolding" that enables the gradual construction of the research.
- ◆ Academic writing is a process of composition, construction and re-construction. This should continuously be kept in mind as academic writing requires continuous editing on the part of the researcher. **You cannot 'arrive' at a perfect research study in your first draft!**
- ◆ The seven virtues of academic writing:
 - ◆ You argue a point.
 - ◆ For each argument there is at least one reason.
 - ◆ A reason is supported by a literature reference, case study, experiment, etc.
 - ◆ You never make statements without being able to prove it.
 - ◆ Each argument should be validated.
 - ◆ Arguments should not only support the views of the researcher but should also counter act differing views.
 - ◆ The literature review and sources should be the latest authority on the topic.

"Students should invest time (more than envisaged) in planning their research."

The Challenges in completing post-graduate studies

- ◆ Students should pay close attention to the technical aspects like grammar, spelling, language usage, punctuation, and referencing.
- ◆ Students should guard against making unsubstantiated claims – every claim should be motivated.
- ◆ Avoid repetition.
- ◆ References should be current - the majority of references should not be older than five years.
- ◆ Search for new ideas. A researcher should be willing to experiment and to enquire whether things could be done differently.
- ◆ A student should know his/her own prejudices and sentiments.
- ◆ A student should be able to fit questions and arguments into a broader context.

- ◆ Research integrity and ethics (like data integrity, feedback, plagiarism, etc.) deserves high regard on the part of the researcher.
- ◆ Students should invest time (more than envisaged) in planning their research.

Communication skills in presenting research results

- ◆ The golden rule is to be well prepared before presenting your research results. Extensive rehearsal reduces stress.
- ◆ Make sure that you are acquainted with the venue and that the technological equipment is in good working order.
- ◆ Be confident. Use positive self-talk by reminding yourself that you are the principal researcher on this specific topic, you know the most about it at this particular moment in time.
- ◆ It is not recommended that you memorize your presentation entirely. On the other hand established researchers often fall into the trap of reading their research results to the audience.

- ◆ In our age the "notes" or prompt card delivery is by far the most popular method of presentation. It allows you to be spontaneous and natural, while maintaining eye-contact with the audience. This kind of presentation is prepared carefully in advance, with the major points and key sentences entered onto the prompt cards. Supplemented by modern technology, this could prove to be the most effective way of presenting your research results.
- ◆ Before presenting your research report, you will have to decide what the purpose of your presentation is. Is it to persuade or to inform the audience?

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sunmedia@sunbloem.co.za