POST GRADUATE RESEARCH GETTING STARTED – AND FINISHED!

INFORMATION AND GUIDELINES

INTRODUCTION

Almost all students who undertake postgraduate research consider this part of their university education programme to be the most challenging – and the most rewarding.

Students say it is challenging because it requires them to draw on a wide range of intellectual capabilities, demonstrate their capacity to work with a considerable degree of independence and to manage effectively what is usually a large-scale project.

Many say it is also a very rewarding experience because of the personal attention that they receive from their supervisors/teachers. And, of course, there is the great satisfaction that comes from successful completion of their project – which confirms that they have become an independent, as well as competent, researcher.

POST GRADAUATE RESEARCH AND THE PURPOSE OF UNIVERSITY EDUCATION

While a university education obviously provides you with the opportunity to acquire the knowledge and skills associated with particular disciplines or professions, it is also intended to help you acquire a broader set of capabilities. Those capabilities are required if you are to become **intellectually independent**.

Intellectual independence is defined in New Zealand law as the principle aim of education at a university

i.e.: universities

> "are primarily concerned with more advanced learning, the principal aim being to develop intellectual independence" (Education Amendment Act, 1990, p33)

So, what are the defining characteristics of the intellectually independent person?

An intellectually independent person

(a) has a very questioning orientation to the world they live in and their own experiences.

(b) can conceive of questions that it would be worthwhile investing time, energy and resources into trying to answer.

(c) can state such questions very clearly.

(d) has a very extensive repertoire of methods, skills and tools for answering questions – and they know which ones to use to answer particular types of questions.

(e) can evaluate the quality of their answers. This requires knowledge of the criteria that should be used (eg to judge the quality of research) and how to make sound, judgements. While not reliant on others, they are ready to seek a second opinion when this is appropriate.

(f) knows how to manage large-scale projects that require sustained intellectual activity. They plan carefully and regularly evaluate the appropriateness and effectiveness of what they are actually doing. They are realistic about their own capabilities and plan accordingly.

Clearly, this is a description of the accomplished researcher and it follows that becoming a researcher is probably the best way to complete the process of becoming intellectually independent. For this reason, undertaking a research project is the final step in a university education programme.

INTELLECTUAL INDEPENDENCE AND YOUR FUTURE

Why is intellectual independence given this priority? It will give you the following very important capabilities:

You will be able to update your own knowledge and skills. This is necessary as a significant proportion of what you know and can do will become redundant or no longer valid over time

Second, you will know how to draw on you existing knowledge and skills in order to construct new insights and ways of doing things. This capacity will enable you to respond appropriately to the new and unpredictable situations which are inevitable in life. You cannot rely on a set of fool-proof recipes as they can only be used to respond to familiar situations. You need to be able to create new recipes.

Finally, you will be able to contribute directly to the construction and evaluation of new knowledge which can improve the lives of other people and the environments in which they live.

The priority placed on intellectual independence does not diminish the importance of the discipline and profession-specific knowledge and skills that you

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have been acquiring. Intellectual independence also needs to be complemented by two other capabilities:

the ability to work sensitively and effectively with other people

the ability to communicate effectively to diverse audiences.

Much university learning addresses these two capabilities which are obvious pre-requisites for researchers.

THE RESEARCH STORY

While there is great variability in forms of research, there is usually a common story to be told about a research project and the associated activities of a researcher.

Ignorance and uncertainty are the conditions that initiate research. Research typically begins when a researcher recognizes that they don't know something, or they are unsure, about a particular phenomenon

I am not really sure, how to explain that
I wonder whether they are linked in some way
I don't know whether that could be controlled.

– and they want to know, for sure.

That strong desire to know prompts them to come up with speculative or 'hunch-like' thoughts.

For example

I have a feeling that there could be four factors that account for this

There seems to be a connection between r and s

Perhaps I could produce a by combining b and c

Because there is lingering uncertainty about the validity of such views (theses), the researcher restates them as a question.

Are there four .....?
Is there a connection?
Will combining b and c lead to a?

At this point, they also consider another question.

Has any one else has asked this question already – and, if so, have they answered it satisfactorily.

They answer this question by making a thorough and critical review of the existing body of literature associated with the topic. What might this literature review reveal?

- the question has been asked and answered satisfactorily by other researchers and there isn't a strong case for undertaking further research. There may, however, be a case for a replication study which will provide further data. That data may strengthen or weaken support for the previous answer.

- the question hasn't been asked. There is a 'gap' in the body of knowledge that they could attempt to fill.

- while research has already been undertaken in relation to the question, the way the research has been conducted is flawed in some aspects (eg design, methodology, interpretation). A case exists for further research which involves an attempt to rectify the flaws.

- while research has been undertaken, the 'generalisation' of findings from previous studies should be assessed. For example, those findings may confirm the effectiveness of a particular treatment for alcoholism in middle-aged men. Is this treatment also effective for the treatment of alcoholism in adolescent girls?

The researcher seeks to determine whether a convincing case can be made for investing time, energy and resources in an attempt to answer the question. Could a contribution be made to existing fields of research/scholarship: a gap filled; limitations addressed; generalization checked? Could there also be significant practical benefits from having an answer to the question. If a case can be established, the researcher can then begin to make decisions about the following matters:

- assumptions/theories that will inform their decision-making during the project
- the approach or design
- the data to be gathered
- methods of data gathering
- data analysis techniques and tools
- ethical considerations
- time frames
- resource requirements
- reporting.

Once preliminary decisions have been made about these aspects, a research proposal is usually prepared. In the proposal the case for undertaking the research is presented along with details of the proposed project. The proposal is presented to a supervisor, Higher Degrees Committee, and/or research funding body who decide whether the research can proceed or whether the proposal needs to be modified before approval can be given.

While there are variations in the format of a research proposal, it usually includes the following:

- an introduction that defines the topic, indicates its significance and outlines the circumstances that have prompted the researcher's interest in the topic (e.g. personal observations and experiences, awareness of issues raised by other

researchers, unresolved matters arising from previous research)

- a statement of the thesis/research question
- a brief literature review which establishes the case for the research (e.g. there is a gap in existing scholarship and there will be practical benefits)
- a description of key features of the project (e.g. the data, the methods)
- where appropriate, an outline of measures that will be taken to ensure the research fulfils ethical guidelines
- an indication of the expected timeframe and the resources required.

The proposal may well be the catalyst for further discussion (e.g. with a supervisor) about aspects of the project – and some adjustments made. Once the proposal is accepted, the researcher can proceed to finalize decisions about design, data, and methods. When working out the detail, the researcher often revisits the existing literature, looking for more information about methodology options, and their pros and cons.

The next chapters in the story concern the implementation of these decisions - gathering, analysing and interpreting data. Further refinements and adjustments to the methodology may be required through this period. The researcher may also be engaged in some of the writing required for the final report.

At the conclusion of this phase, the researcher reviews the 'findings' and considers their implications for the original thesis. Was the thesis confirmed? If not, why not? They also

(a) make a rigorous and honest assessment of the strengths and limitations of the way they have conducted the research

(b) assess, with due regard for those strengths and limitations, the contribution that their findings make to existing scholarship.
Do the findings confirm existing points of view, or challenge them?
Is a gap filled?
Have better methods been developed?
Has generalization been demonstrated?

For the final chapter, the researcher looks into the future and

(a) identifies the actual or potential benefits that others may be gain from their findings

(b) offers suggestions or recommendations for future research.
Should the research be repeated with or without modification?
Are there other questions that should now be addressed?

All of these activities and their outcomes are documented in a research report. There is a great deal of writing to do for any research project and it occurs from the time the commitment to undertake the study is made. Often there are several forms of report prepared (e.g. the report submitted by a postgraduate student for examination, conference papers, journal articles).

WHERE TO START: DECIDING ON A RESEARCH TOPICS, THESIS AND RESEARCH QUESTION(S)

Now let's go back to the opening phases of the research that involve thinking in turn about a topic, a thesis, and then research question(s).

The terms research topic, research thesis and research questions are not synonyms. It is essential that you know the different meanings that these terms have.

The Topic

The topic is the subject matter for the research. Almost invariably, a topic is embedded in a wider field of knowledge about certain phenomenon. For example, the topic that you are interested in may be ways of teaching adolescents about preventative health practices – and this topic can be located in the general field of health education. Other fields may also be relevant (e.g. physiology, human development, social psychology) and you may need to become familiar with new areas of scholarship.

Topics attract the attention and interest of researchers for a variety of reasons: The topic

- has always interested/ excited you
- is associated with exciting new discoveries
- is associated with much controversy
- is attracting the attention of many researchers
- is relevant to your work/job
- would open up job opportunities
- has well-supported and funded research opportunities.

If your research focuses on a topic that you are passionately interested in, you are more likely to be strongly motivated from the outset and your motivation is more likely to be sustained throughout the project. The latter is important as usually there will be some 'down' periods.

Pragmatism is also as relevant as passion. Knowing that there will be benefits for your future career and that you will be able to take advantage of generous research

funding can also help ensure early and successful completion

Sometimes, students find it difficult to identify a topic that could be the focus for a research project. Here are some suggestions for 'finding a topic'. In the context of postgraduate research, the topic will usually be something that you have studied already and that you are likely to have a genuine personal interest *in, for whatever reason.* When you look back on such potential topics, how might you assess whether they could be a research topic?

Look for 'reviews' of theory and research related to topics that you have some interest in. Literature reviews can be found in reports of recent studies. 'State of the research' reviews may also be published. The authors of these reviews provide a comprehensive update on theory and research associated with a particular topic and highlight inconsistencies, debates and controversies which could be the basis for a research question. They may also identify questions that have not been addressed or answered satisfactorily.

Sample research reports in an area that you think could be a source. Read the conclusion sections in which the researchers will usually offer their views on directions for future research.

Make yourself familiar with research being undertaken by staff and other post-graduate students within your department. Many researchers are delighted that others are interested in their topic and are keen to encourage involvement in related research. They may identify research questions that they would like to see addressed.

Check whether there are any large-scale projects being planned, or underway, in your department to which you could contribute. Such projects, which are often funded from external sources, may well require the input of a research team.

Take note of topical, public debates or controversies associated with topics that you are interested in. Consider the possibility that you could undertake some research that would help inform the debate or resolve conflicting points of view.

Find out about research being undertaken by government/local body agencies in areas that you have an interest in. Ask representatives of these agencies about their research agenda and related topics.

If you are working in an organization, you may become aware of issues that could be addressed through research.

Treat your everyday observations and experiences as a potential topic source. Notice questions that you ask about your own experiences or the factors that impact on your life. Allow for the possibility that one of these questions could become your research question. Research often begins from the everyday experiences that people choose reflect on and question!

Mapping Your Topic

Use mapping as a tool to help clarify, confirm and communicate your understanding of the topic. On a large sheet of paper or a whiteboard, note down the ideas that you associate with the topic, and that help define it. Look at the words you have written down. How precisely do they define or describe the phenomenon that you are interested in. Can you be more precise? As you record key words, ask yourself, can I state the meaning of these words readily and clearly.

If you cannot, this may imply that your thoughts are incomplete or unclear and you need to do more thinking, and probably more reading, about the topic. Researcher thinking is characterized by **rigour,** or as one dictionary definition states, *exquisite exactness.* This exactness applies to the language you use as well as your thoughts, so you may also need to think more about the words you use to communicate your ideas.
As you engage in these activities, continue to map your emerging ideas about the topic: what it involves and how aspects are interrelated. The latter can be shown using lines, arrows, circles etc. Maps provide a convenient 'big picture' of your thoughts and allow you to also see the potential scope of the topic. It may become apparent that you will have to narrow the scope if you are to have a manageable research project. The mapping process can identify where the boundaries should be located.

Finding A Thesis

Finding a topic is one thing: identifying a thesis is another.

The term thesis is used in ways that suggest a variety of meanings. For example:

What are you doing your thesis on? (topic)
Have you finished your thesis yet? (project/report)
When are you submitting your thesis? (document)
My thesis is going well? (project)
Doing a thesis is a mix of pleasure and pain (process)
Can I read your thesis? (document)

While, it is appropriate to use the term in these varying ways there is a particular meaning that you need to be aware of because it is central to the concept of research.

The word thesis is Greek in origin with the literal translation of *place* or *position.* In the context of research, the word thesis now refers to **a point of view about a phenomenon that the researcher sets out to construct and/or evaluate.** These meanings are clearly related. The term position can

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mean both a place and a point of view

Sometimes research involves constructing or developing new points of view. This occurs when the researcher believes there is a gap in knowledge about something and that they may be able to fill that gap with a new point of view.

For example, the researcher might begin their research with the tentative point of view (ie thesis) that

There is a previously unrecognised interaction between 'baldness and blood pressure'

and endeavour to provide evidence that this relationship exists – that the thesis is sound.

Another researcher, having reviewed the evidence provided, has reservations about the validity of this point of view. They conclude that while there is indeed a relationship between baldness and blood pressure, the form of relationship hasn't been described accurately. They reconstruct the initial view

There is a curvilinear, rather than unilinear, relationship between baldness and blood pressure

and try to establish whether the thesis can be defended with evidence and arguments,

On the basis of a continuing series of investigations, the original point of view may be further modified or possibly, in time, abandoned.

How does a thesis come to mind? Sometimes the thesis has been resident in the researcher's mind for a long time
For some years, I have had this hunch that .....
Alternatively, the topic mapping process may generate thesis thoughts. These may emerge spontaneously and with immediate clarity. Alternatively, you may need to prompt yourself to generate a thesis.
What is my hunch about this?
and the thesis may initially be a very vague idea that you struggle to articulate. As soon as possible, write down the idea and try to find words that will state it clearly and precisely. Then give your thesis statement to someone else and ask them to indicate how meaningful and clear it is to them.

Once you have a clear thesis statement, keep it in view in your workplace. This will help you stay on track.

Sometimes, depending on the research approach that you adopt, new theses will emerge through the project. This may be in response to data that you have gathered and analyzed, and will lead on, in turn to new research questions.

Research Questions

Once a thesis has been identified and stated, it can be restated in question form - a simple process. e.g.

What is baldness? What is blood pressure?
Does a relationship exist between baldness and blood pressure?
If a relationship does exist, what is the nature and direction of the relationship?

The research question(s) determines:

- the design of the study
- the nature of the data to be gathered
- how the data will be analysed
- the nature of the interpretations to be made.

As noted previously, the greater the clarity and precision in the research question the easier it is to make decisions about these aspects.

RESEARCH AND THEORY

We undertake research to develop and evaluate points of view that will allow us to more adequately

- describe phenomena that we encounter and experience
- explain those phenomena
- predict how things could be in the future
- influence or control phenomena.

There are five types of points of view that we can construct and that represent the building block of a theory. Theory incorporates points of view about

(a) the things that make up a phenomenon and that differentiate it from other phenomena.
Baldness is ……..
Blood pressure is …..
High-low blood pressure is ……

(b) the presence or absence of a relationship between phenomena:
There is a relationship between baldness and blood pressure

(c) the direction of these relationships:
Baldness leads to blood pressure changes

(d) the impact of changes to phenomena that are in a relationship
Increases in baldness are associated with increases in blood pressure

(e) the nature of the relationship between phenomena (cause–effect, probabilistic)
I think that baldness does not invariably have an impact on blood pressure. It can, however, increase the likelihood of someone developing blood pressure problems.

Underpinning a theory are more fundamental views that we refer to using such terms as assumption, belief or world-view. These include beliefs that particular phenomenon exist and about the nature of the

relationships possible between phenomena.

There is an expectation that researchers will state explicitly what their assumptions, beliefs, or worldviews are and also indicate existing theories that have informed their thoughts and thinking. They are also expected to be able to identify the theories that inform the work of other researchers.

RESEARCH: GETTING FINISHED

The research report that you write has to contain evidence that will convince the reader/examiner that you are a capable researcher. Research undertaken in the context of a post-graduate programme also has to provide evidence that you have achieved a high level of intellectual independence. Obviously you need to know what these criteria are BEFORE you get underway. So what are the criteria that are likely to be used when the quality of your work, and therefore your research capabilities, is evaluated?

As an examiner of research, I have four general criteria in mind: does the report confirm that the researcher is able to

- get to know and critique the field of scholarship/research within which the research is located
- identify precisely and clearly what is being researched and why
- competently identify, gather, analyse and interpret relevant data
- state the contribution that the research makes to the field.

Here are more specific criteria associated with these general criteria.

The Field

Is there clear evidence that you know about and understand

- the history of related ideas and research
- current points of view and research work in progress
- related debates, controversies, developments and breakthroughs
- Who the main, and leading. contributors to the field are
- the strengths, limitations and weakness of research undertaken to date.

Do you provide

- a well organised and readable account of the field
- the big picture as well as relevant detail
- analyses and syntheses of patterns, trends, (in)consistencies
- critique as well as description of ideas and research processes

The Thesis/Research Questions

- Is a thesis made explicit, and clearly stated?
- Is a convincing, coherent and clear case made for addressing the thesis, answering the associated research questions?
- Are the research and the content of the report, always relevant to the thesis/research questions?

The Data

- Have you gathered data that is relevant/valid and reliable?
- Do you show awareness of the options and the pros and cons for data-gathering and data analysis methods, techniques and tools
- Is the data free of errors or inaccuracies?
- Are your interpretations of data reasonable and sound?

The Contribution

- Do you highlight the strengths and limitations of your own work?
- Have you identified the specific contributions that your research has made to the field of scholarship within which it is located (gaps filled, inadequacies addressed).
- What degree of originality is there in these contributions?
- Are the implications of your research for future research identified?
- Have you pointed out any 'practical' implications or benefits of your findings?

While the report cannot tell the full story about the way in which you approached and handled these aspects of research, it usually provides enough information to ensure a sound judgement about your abilities.

On the way through your project you should revisit these criteria, or the ones that your supervisor provides you with. It is easy to forget what the end-goal is when you are immersed in the detail of your research.

My best wishes for your research.