# Undertaking Postgraduate Research

**What is postgraduate level research?**

Research is both ‘finding out’ about a particular topic of interest, as well as building on existing knowledge in order to develop new knowledge. This could mean ‘new’ in the sense of:

• A completely new discovery.

• Exploring an aspect of a topic that has never been fully investigated before.

• Investigating a topic from a new angle.

While PhD students are expected to contribute to a body of knowledge, Masters students are not usually expected to produce ‘new knowledge’ as such. They are, however, expected to work with existing knowledge at a higher level than undergraduates, which involves exploring existing knowledge in depth and detail, presenting and applying knowledge (and material) in fresh configurations.

**Research methods**

**Reading and evaluation**

Essentially, research involves reading and summarising as much information as possible from a wide range of scholarly literature, this involves:

* Analysing key themes, ideas and theories that can be applied to a specific research topic.
* Identifying salient points, testing and evaluating arguments.
* Using ideas and gaps in scholarly literature to formulate a point of view or to fill a gap by undertaking empirical research.

**Empirical research:** Many projects require an element of empirical (first-hand) data, for example in science and technology subjects this may involve practical lab-work. Research projects have to be carefully planned and agreed with your supervisor, paying particular attention to health and safety issues and adhering to research ethics guidelines.

**Empirical research** methods tend to fall into two categories:

* **Quantitative methods** are used to generate numerical data in order to understand how much something occurs. Sometimes a simple counting of occurrences is all that is needed, but further statistical analysis is often required. Typical approaches to generating numerical data are: surveys (e.g. numbers of people involved in an activity), questionnaires (e.g. how many people do/think x, y and z?) or specific technical instruments (e.g. psychological texts). Quantitative approach came from the physical sciences and an emphasis on what is deemed as objective ‘facts’.
* **Qualitative methods** are used to generate details and descriptions in order to understand what, why and how things occur or are interpreted. This kind of data may be gathered through semi-structured interviews, case studies, or observation etc. Detailed records are kept of these encounters, which are usually analysed in a search for trends and patterns. Qualitative methods grew out of the human sciences, particularly Social Anthropology, and an emphasis on the existence of rich and nuanced detail rather than objective facts.

**Strengths and weaknesses in quantitative and qualitative methods:**

* A strength of quantitative research is that it produces raw data, which can be statistically manipulated to generate generalisable conclusions, providing certain criteria are met (reliability, validity, probability theory, and so on). A weakness is that it tends to ‘average out difference’ – that is, it tends to iron out or simplify variation in the data as much as possible.
* A strength of qualitative research is the direct opposite of quantitative: qualitative is extremely good at highlighting variations and significance of detail. However, qualitative data has to be very carefully interpreted as it can leave researchers open to claims that their findings are entirely subjective. It can also be very time-consuming because it requires intense concentration and position-awareness on the part of the researcher.

**Choice or combination of methods** is one of the critical decisions to be made in the early stages of a research project:

* What data do you need in order to achieve the aims of your research project?
* What method (or methods if you are taking a staged approach) will best produce the information you need?

You will need to consult some of the many textbooks on empirical research and discuss this carefully with your supervisor before drawing up your initial Research Proposal.

**Research Proposals**

Research Proposals are an important first step in any research project. The process of drafting a proposal, negotiating a way forward with your supervisor and then redrafting, can be lengthy. However, it is important to remember that your supervisor is responsible for ensuring that your proposal:

* has a specific research question or enquiry.
* meets the academic requirements of your course.
* is feasible in the available time and with the available resources.

Departmental procedures for Research Proposals vary across the university. ALWAYS check your course documentation for precise information about the forms to be completed and deadlines for submission. If in doubt, check with your supervisor (check out our SAS guide on ‘How to Write a Research Proposal).

**Research ethics**

All research institutions have rules which require everyone, including students working for postgraduate qualifications, to get ethical clearance before working on any projects involving ‘human participation’. To get ethical clearance you will need to formally demonstrate (e.g. ethical approval application form) your risk assessment and risk mitigation. Research ethics tend to revolve around the following principles:

* The welfare of participants e.g. psychological, reputational, physical and financial, must be fully respected and protected.
* Participants must give fully informed and voluntary consent before participating.
* Participants must be given appropriate levels of feedback – for example, copies of any transcripts made from interviews with an opportunity to omit information or correct any factual errors.
* Participants must be made aware of how their personal data will be stored and protected.
* Participants be made aware of any publications that might come out of the finished study.

Your application will need to be assessed by the relevant Research Ethics Committee for your area. It is therefore essential to plan for obtaining ethical approval well in advance of any data gathering and factor this time into your overall research plan. For more information on this, ask your supervisor.

**Research planning**

Research projects take time – longer than you might think, especially if empirical data is involved. Good planning and effective time management are essential. Work back from the final deadline and factor in extra time for:

* scoping and reviewing literature. Remember, you may need to undertake research in order to identify initial search terms and explore alternative topics or sources of research if there appears to be a lack of relevant material. Explore and understand a broader area before focusing in.
* researching, designing and justifying methods for data generation and analysis.
* undertaking pilot studies to test and adjust methods.
* revising documentation and approaches in order to gain ethical approval.
* attracting the necessary type and number of research participants.
* carrying out interviews or questionnaires etc. depending on your method.
* transcribing or collating data if you are doing it yourself. Even with the aid of computer programmes such as SPSS or Nvivo, the collation and analysis of empirical data is a long process and has to be completed carefully.
* processing and analysing your data - understanding and drawing conclusions from it - is the most crucial stage in empirical research.
* drafting and editing different versions of your report or thesis.
* reacting to emergencies: be prepared for issues with the project, illness, computer or software, family etc

In short, a good dissertation or thesis takes a lot of time. Start well in advance of the deadline and draw up a schedule of personal targets and goals something like this:

**I will finish the...** **by....**

Research proposal given deadline

Research Ethics submission given deadline

Literature search and reading so many weeks (set own realistic deadline)

Empirical data gathering so many weeks (set own realistic deadline)

Data analysis set own deadline

Processing the ideas and evidence set own deadline

Drafting the initial report set own deadline

Edit and revise initial draft set own deadline

Submit finished product given deadline

Allow for slippage as assignments such as this rarely go smoothly. Check the ‘do-ability’: can you actually achieve these targets and still deliver the final project on time? If not, you may need to adjust the schedule. Remember to leave plenty of time for work,

**Tracking idea development**

Keep a record of all sources, especially bibliographic information and page numbers of sources you will need for your references.

* Keep catalogued notes from your reading, to help you remember key ideas as well as process information. Keep and digest the salient points, noting what is directly relevant to your research, and what is merely secondary.
* Record your observations and development of approaches and thinking
* Record and catalogue data.  
  Record the dialogue between the theories and ideas set out in the literature and the results of your own research:
  + Does your data confirm or challenge the ideas put forward in the literature?
  + What are your own theories?
  + Where is the evidence you need to support your ideas?
  + How else might this data be interpreted?

**Drafting the dissertation/thesis**

Prepare a thesis/dissertation plan, setting out the data you have collected in the required format for your particular project (ALWAYS go back at this stage and re-read the instructions given at the start of the project. ALWAYS do what it says). A fairly typical dissertation will probably follow a pattern something like this:

* Introduction: set the scene for the research project; show why it is important and/or interesting and indicate any gaps in current knowledge.
* Set out a summary of your chosen method – and give a rationale: why did you choose this approach, how are you justifying its use in this particular project? What alternative methods might have been used, and why were they not chosen?
* Literature review: a brief summary of the key points made in the books and journals consulted, and a critique – do these ideas or theories work, and why/why not? What kind of picture emerges from this literature, and what is missing?
* Presentation of the empirical data (this will vary depending on method)
* Analysis of empirical data, identifying key themes, trends or patterns  
  Presentation of your own findings – what do you make of this material and what evidence can you produce from the empirical data to justify your point of view?
* Interaction between the findings of your empirical research and the literature review.
* Discussion of the key issues that emerge from this dialogue between data and literature.
* Your conclusions (and check: have you actually done what you said you would do in the introduction? Have you ‘delivered the goods’?)

**Using your supervisor**

Students engaged in postgraduate research are expected to take a high degree of responsibility for their work. The role of the supervisor is not to direct your research or do the work for you. They are a mentor – a senior colleague who is able to offer helpful advice from their own experience and perhaps give some immediate feedback e.g. does your work cover the ground, are there obvious gaps, does the argument work, is the work of a satisfactory academic quality etc. They will advise, challenge, discuss and – if necessary – warn.

Normally, supervisors want to set up a kind of ‘contract’ with students at an early stage of the relationship. This ‘contract’ should clearly spell out mutual expectations: how regularly you will meet, what work the supervisor expects to be completed in advance of each meeting, how feedback will be arranged etc. The supervisor will also guide you through the correct processes (for example, procedures for Masters students to upgrade to PhD status) and remind you of programme deadlines and regulations. Follow their advice carefully.

Supervisors will expect you to be self-disciplined and motivated enough to complete work by agreed deadlines. You should, therefore, contact them as soon as possible if you run into problems that will make it difficult to present the work on time. Supervisors expect – and have the right to expect – a fully professional approach from students. This means that:

* You (and they) will keep appointments unless genuinely and unavoidably delayed.
* You (and they) will keep in regular contact to check progress, and awareness of correct processes.
* You (and they) will complete agreed tasks on time.
* You (and they) will prepare a clear agenda for each meeting.

This guide has been created for you by the Skills for Academic Success Team. If you need help or advice with any issue raised in this study guide, please book an appointment with the S.A.S.

Other guides that might help you in the series are:

* How to write a research proposal
* Literature reviews
* Managing a research project
* Tips on time management

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