

Planning and conducting: A Dissertation Research Project For Student and Researcher

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Study guide

This guide addresses the task of planning and conducting a small research project, such as for an undergraduate or masters' level dissertation. It aims to help you develop a clear sense of direction early on in the project, and to support you in organizing, planning, and monitoring your project.

The companion guide writing a dissertation focuses on the preparation of the written report or thesis.

What is a dissertation?

A dissertation is a particular kind of academic task. You will usually be asked to generate a topic for yourself; to plan and execute a project investigating that topic; and to write-up what you did and what your findings were. Important stages in the dissertation process include:

- Choosing a topic;
- Developing a research question;
- Effective planning of the research;
- Being organized and methodical while conducting your research; and
- Reporting the research.

Choosing a topic

While some students come to their research project with a clear research question to address, many others arrive at this point with several ideas, but with no specific research question. In view of the pressure to get started fairly quickly, this can cause anxiety and even panic. It is, however, a common situation to be in. There are several ways forward:

- Talk to others: what topics are other students considering? Does this spark an interest? Don't wait until you have a fully formed research question before discussing your ideas with others, as their comments and questions may help you to refine your focus.
- Look at other writing: set aside some time to spend in the library, skimming through the titles of research papers in your field over the past five years, and reading the abstracts of those you find most interesting.
- Look through the dissertations of previous students in your department: the topics may give you inspiration, and they may have useful suggestions for further research.
- Think about your own interests: which topic have you found most interesting, and is there an element that could be developed into a research project?
- Is there a related topic of interest to you that has not been covered in the syllabus, but would fit with the theory or methodology you have been working with?
- Be extra critical: is there something in your course so far that you have been skeptical about, or which you think needs further study?

- Read about an interesting topic and keep asking the question ‘Why? : This may identify a research question you could address.

Remember that a research study can:

- replicate an existing study in a different setting;
- explore an under-researched area;
- extend a previous study;
- review the knowledge thus far in a specific field;
- develop or test out a methodology or method;
- address a research question in isolation, or within a wider programme of work; or
- Apply a theoretical idea to a real world problem.

This list is not exhaustive, and you need to check whether your department has a preference for particular kinds of research study.

Discuss your proposed topic with a member of academic staff who you think might be appropriate to supervise the project. Provided they feel that they know enough about the subject to supervise it, and provided that it can be interpreted as falling within the broad fields of your degree subject, academic staff are generally open to suggestions.

You should think realistically about the practical implications of your choice, in terms of:

- The time requirement;
- Necessary travelling;
- Access to equipment or room space;
- Access to the population of interest; and
- Possible costs.

For example, a project on coal mining in the North East of England may require you to visit Newcastle’s Record Office, or to interview coal miners from the region. Is this something that you are prepared and able to do? If the practical considerations associated with your research ideas are unrealistic, you need to consider whether you are willing to modify or reconsider your project.

Developing a research question

Once your topic has been accepted by your department, you need to begin the process of refining the topic and turning it into something that is focused enough to guide your project. Try describing it as a research problem that sets out:

- the issue that you are going to be investigating;
- your argument or thesis (what you want to prove, disprove, or explore); and
- The limits of your research (i.e. what you are not going to be investigating).

It is important that you establish a research problem at, or close to the start of, your project. It is one of the key tools you have, to ensure that your project keeps going in the right direction. Every task you undertake should begin with you checking your research problem and asking “will this help me address this problem?”

You should be willing to revise your research problem as you find out more about your topic. You may, for example, discover that the data you were hoping to analyze is not available, or you may encounter a new piece of information or a new concept while undertaking a literature search, that makes you rethink the basis of your research problem. You should always talk to your supervisor before you make any substantial revision to your plans, and explain why you think you need to make the change.

Research problem**Commentary**

'Public transport in Scotland'

This sets out your research field but does not frame a research problem because it is too general. You do not have time to study everything about a topic, so you should focus on an aspect that you are interested in.

'Examination of the influence of public transport links on new housing development in Western Scotland'

This is a much better research problem as it establishes an argument (existence of public transport may have some influence on new housing development). However, it is still quite general and could be improved by further focus.

'Investigation of the relationship between public transport links and the development of new areas of housing in Western Scotland: a comparison of local plans and building development since 1990'

This is better still. It shows the limits of the project. You will be investigating a complex subject (public transport in Scotland), but will be focusing on only one aspect of it (possible influence on new housing development). You will make this large subject manageable by focusing on a limited period of time (1990 onwards), and limited sources.

Effective planning of the research

Writing a research proposal

A research proposal is a more detailed description of the project you are going to undertake. Some departments require you to submit a research proposal as part of the assessment of your dissertation, but it is worth preparing one even if it is not a formal requirement of your course. It should build on the thinking that you have done in defining your research problem; on the discussions that you have had with your supervisor; and on early reading that you have done on the topic. A comprehensive research proposal will make you think through exactly what it is that you are going to do, and will help you when you start to write up the project.

You could try outlining your project under the following headings (Booth, Williams, & Colomb, 2003. *The craft of research*. Chicago: The University of Chicago Press.):

Topic:	This project will study...
Question/problem:	To find out...
Significance:	So that more will be known about...
Primary resources:	The main data will be...
Secondary sources:	Additional data comes from...
Methods:	The research will be conducted as follows...
Justification:	The method is most appropriate because...
Limitations:	there are some matters that this methodology may not help me to explain. These might Include...

You may find that some of these headings are difficult to fill in right at the start of your project. However, you can use the gaps to help identify where you need to begin work. If, for example, you are unsure about the limitations of your methodology you should talk to your supervisor and read a bit more about that methodology before you start.

Creating a research plan

A dissertation is an extended project that asks you to manage your time and undertake a variety of tasks. Some courses schedule the dissertation at the end, while others have it running along concurrently with other modules. Whichever way your course is organized, it is essential that you create a plan that helps you allocate enough time to each task you have to complete.

It is useful to work out how many weeks you have until you need to submit your completed dissertation, and draw a chart showing these weeks. Block out the weeks when you know you will be unable to work, and mark in other main commitments you have that will take time during this period. Then allocate research tasks to the remaining time.

It is very important to be realistic about how long each task is likely to take. Some focused thought at the beginning, then at the planning stage of each phase, could save hours later on. Write down the resources needed for each stage. It could be time in the library; the resource of your working hours; or the use of equipment or room space that needs to be booked in advance.

Procrastination

Some people find that they procrastinate more than they would like. This is a common problem, so it is probably best to be well-prepared to identify it and deal with it if it does start to happen. People procrastinate for various reasons for example:

- poor time management
- daunted by the scale of the task
- negative beliefs
- loss of motivation
- perfectionism
- difficulty concentrating
- need to feel under pressure
- personal problems

Early identification of the signs of procrastination will give you the best chance of minimizing any negative effects. Once you suspect that you are procrastinating, it can be helpful to review what you are expecting of yourself, and check that those expectations are realistic. This is where planning is vital.

Realistic planning

To improve the prospect of completing on time, and avoiding procrastination, you need to:

- be realistic about when you can/will start;
- devote time to planning and revising your plan;
- try to work out if any of your research will take a set amount of time to complete;
- allocate appropriate time for any travelling you need to do for your research;
- include other (non-dissertation related) things that you have to do between now and then;
- have clear and achievable objectives for each week;
- focus on one thing at a time;
- leave time for editing and correcting;
- reward yourself when you complete objectives that you have timetabled; and
- if you fall behind make sure you spend time reworking your plan.

Your research plan should also include information about what equipment you will need to complete your project, and any travel costs or other expenses that you are likely to incur through the pursuit of your research. You should also think about whether you are dependent on any one else to complete your project, and think about what you are going to do if they are unable to help you.

Once you have created your plan it is a good idea to show it to someone else. Ideally you will be able to show it to a member of academic staff or bring it to the Learning Development, but talking it over with a friend may also help you to spot anything that you have forgotten or anywhere that you have been unrealistic in your planning.

Being organized and methodical while conducting your research

The role of the supervisor

Although a dissertation is an opportunity for you to work independently, you will usually be allocated a member of academic staff as a supervisor. Supervisors are there to help you shape your ideas and give you advice on how to conduct the research for your dissertation. They are not there to teach you the topic you have chosen to investigate: this is your project. They are, however, one of the resources that you can call on during your research.

Academics are busy people, so to get the most out of your supervisor you will need to be organized and to take responsibility for the relationship. It is not your supervisor's job to chase you into completing your dissertation, or to tell you how to manage the different stages of the project. To ensure that you get the most out of your supervisor you need to:

- agree a timetable of meetings at the start of your project and stick to it;
- make sure that each meeting has a focus e.g. "setting a research problem", "analyzing the data";
- Send something that can form the basis of a discussion about your progress to your supervisor before each meeting. This could include your research plan, early results of your data collection or draft chapters;
- Turn up on time to each meeting you have arranged. Do not assume that your supervisor is available at all times to see you;
- at the end of each supervision agree some action points for you to focus on before the next time you meet; and
- Keep a record of what you decide in supervision sessions.

If you are not happy with the way you are being supervised, explain why to your supervisor or discuss the issue with your personal tutor.

Undertaking a literature survey

Regardless of whether you have been given a dissertation topic or you have developed your own ideas, you will need to be able to demonstrate the rationale for your research, and to describe how it fits within the wider research context in your area. To support you in doing this you will need to undertake a literature review, which is a review of material that has already been published, either in hard copy or electronically, that may be relevant for your research project. Key tools that is available to help you include:

- internet search engines, especially ones that offer advanced search features (see <http://www.google.com/> and <http://scholar.google.com/>);
- the University of Leicester Library Catalogue;
- electronic journals available via the library; and
- Bibliographies in any key texts about your topic.

It is a good idea to make an appointment to see the librarian specializing in your subject. An information librarian should be able to give you advice on your literature search, and on how to manage the information that you generate.

You will probably generate more references than you can read. Use the titles and abstracts to decide whether the reference is worth reading in detail. Be selective by concentrating on references that:

- are recommended by your supervisor;
- contain a high number of specifically relevant keywords;
- are cited in a number of other works; and
- Are published in the last five years, unless they are key texts in your field.

Once you start reading, ensure that you think about what you are trying to get out of each article or book that you read. Your notes should enable you to write up your literature search without returning to the books you have read. Refer to the guides *Effective Note Making*, *Referencing and Bibliographies*, and *Avoiding Plagiarism*, for further help with note-making.

Collecting data

For most research projects the data collection phase feels like the most important part. However, you should avoid jumping straight into this phase until you have adequately defined your research problem, and the extent and limitations of your research. If you are too hasty you risk collecting data that you will not be able to use.

Consider how you are going to store and retrieve your data. You should set up a system that allows you to:

- record data accurately as you collect it;
- retrieve data quickly and efficiently;
- analyze and compare the data you collect; and
- Create appropriate outputs for your dissertation e.g. tables and graphs, if appropriate.

There are many systems that support effective data collection and retrieval. These range from card indexes and cross-referenced exercise books, through electronic tools like spreadsheets, databases and bibliographic software, to discipline-specific tools. You should talk about how you plan to store your data with your supervisor, an information librarian, or a study adviser in the Learning Development. As you undertake your research you are likely to come up with lots of ideas. It can be valuable to keep a record of these ideas on index cards, in a dedicated notebook, or in an electronic file. You can refer back to this 'ideas store' when you start to write. They may be useful as ideas in themselves, and may be useful as a record of how your thinking developed through the research process.

Pilot studies

A pilot study involves preliminary data collection, using your planned methods, but with a very small sample. It aims to test out your approach, and identify any details that need to be addressed before the main data collection goes ahead. For example, you could get a small group to fill in your questionnaire, perform a single experiment, or analyse a single novel or document.

When you complete your pilot study you should be cautious about reading too much into the results that you have generated (although these can sometimes be interesting). The real value of your pilot study is what it tells you about your method.

- Was it easier or harder than you thought it was going to be?
- Did it take longer than you thought it was going to?
- Did participants, chemicals, processes behave in the way you expected?
- What impact did it have on you as a researcher?

Spend time reflecting on the implications that your pilot study might have for your research project, and make the necessary adjustment to your plan. Even if you do not have the time or opportunity to run a formal pilot study, you should try and reflect on your methods after you have started to generate some data.

Dealing with problems

Once you start to generate data you may find that the research project is not developing as you had hoped. Do not be upset that you have encountered a problem. Research is, by its nature, unpredictable. Analyze the situation. Think about what the problem is and how it arose. Is it possible that going back a few steps may resolve it? Or is it something more fundamental? If so, estimate how significant the problem is to answering your research question, and try to calculate what it will take to resolve the situation. Changing the title is not normally the answer, although modification of some kind may be useful.

If a problem is intractable you should arrange to meet your supervisor as soon as possible. Give him or her a detailed analysis of the problem, and always value their recommendations. The chances are they have been through a similar experience and can give you valuable advice. Never try to ignore a problem, or hope that it will go away. Also don't think that by seeking help you are failing as a researcher.

Finally, it is worth remembering that every problem you encounter, and successfully solve, is potentially useful information in writing up your research. So don't be tempted to skirt around any problems you encountered when you come to write-up. Rather, flag up these problems and show your examiners how you overcame them.

Reporting the research

As you conduct research, you are likely to realize that the topic that you have focused on is more complex than you realized when you first defined your research question. The research is still valid even though you are now aware of the greater size and complexity of the problem. A crucial skill of the researcher is to define clearly the boundaries of their research *and to stick to them*. You may need to refer to wider concerns; to a related field of literature; or to alternative methodology; but you must not be diverted into spending too much time investigating relevant, related, but distinctly separate fields.

Starting to write up your research can be intimidating, but it is essential that you ensure that you have enough time not only to write up your research, but also to review it critically, then spend time editing and improving it. The following tips should help you to make the transition from research to writing:

- In your research plan you need to specify a time when you are going to stop researching and start writing. You should aim to stick to this plan unless you have a very clear reason why you need to continue your research longer.
- Take a break from your project. When you return, look dispassionately at what you have already achieved and ask yourself the question: 'Do I need to do more research?'
- Speak to your supervisor about your progress. Ask them whether you still need to collect more data.

Remember that you cannot achieve everything in your dissertation. A section where you discuss 'Further Work' at the end of your dissertation will show that you are thinking about the implications your work has for the academic community.

The companion study guide writing a Dissertation focuses on the process of writing up the research from your research project.

- Think carefully about your topic and ensure that it is sufficiently focused.
- Write a detailed research proposal to help you anticipate the issues/problems that you are going to deal with.
- Devote time to planning and stick to your plan.
- Work closely with your supervisor and respect the time and advice that they give you.
- Be organized and take detailed notes when you are undertaking your literature survey and data collection.
- Make a clear decision about stopping data collection.
- Move positively into writing-up your research.
- Allocate enough time to reviewing and editing your writing.
- Remember that you cannot achieve everything in your dissertation, but you can critically appraise what you have done, and outline ideas for further, relevant research.

References [1]: University of Leicester – Learning Development

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