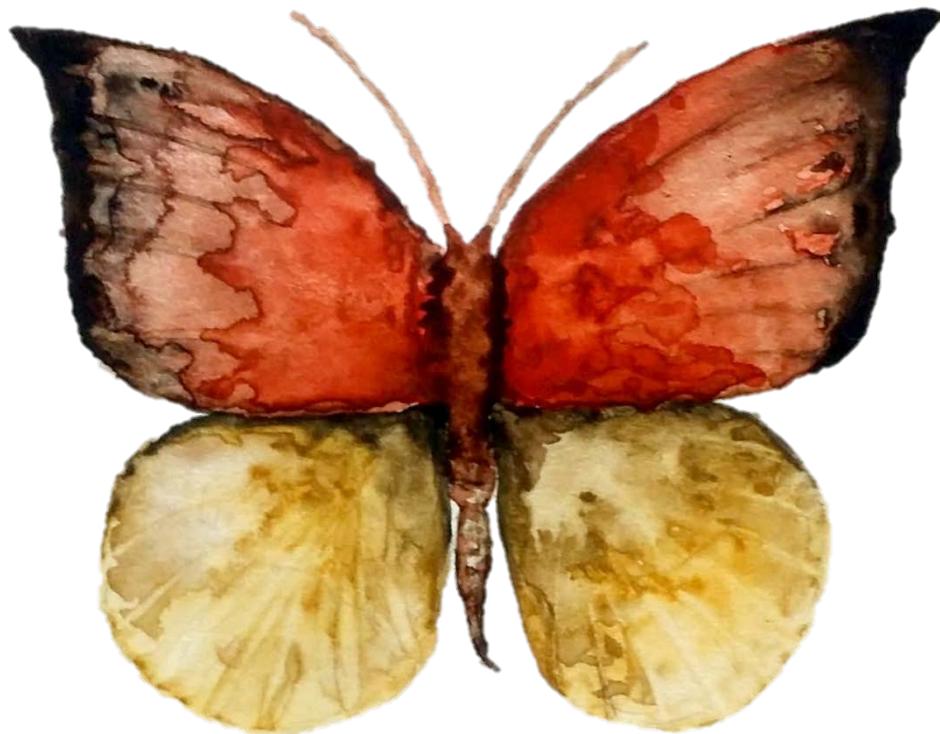


A University-Wide

GUIDE TO PREPARING THE
SUMMARY OF PROPOSED RESEARCH PROGRAM



A Component of the Application for Candidacy

Developed for the Office of Research and Development

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March, 2016

ACKNOWLEDGMENTS

This guide was originally developed with the assistance of a Distance Education New Initiatives Development Grant in 1998 from Curtin University, with Professor Léonie Rennie as Project Team Leader and has benefited from the early work of David Treagust. The team comprised Darrell Fisher and Peter Taylor from the Science and Mathematics Education Centre, and Jill Downie and Pat Rapley from the (then) School of Nursing. The guide was originally produced for candidates in the social sciences and was revised and extended by Jill Aldridge for use across the university.

The authors are indebted to Tania Lerch and Kate Ala'i for their assistance in producing this updated version.

The authors thank all those Curtin candidates, many of whom are now graduates, who gave permission to use their summary of proposed research programs as examples, and are made available on the website.

The butterfly, symbolising the transformative power of the education process, is reproduced with the permission of Haylee Navidi.

Questions, corrections, suggestions and any other comments about the materials should be addressed to Jill Aldridge at J.Aldridge@curtin.edu.au.

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1. INTRODUCTION

1.1 PURPOSE OF THE GUIDE

Your enrolment into a postgraduate research degree places considerable demands on your intellectual, organisational and management capacity. If you are a novice researcher, the task of planning and conducting research may seem daunting, particularly if you study by distance education and have little face-to-face contact with your supervisor and other students. We hope that this guide will help you on the road to success.

At most universities, the first stage of your research degree (after any course work is completed) is to develop a proposal for your research program and to submit it for approval. At Curtin, this process is called “applying for candidacy”. Once your proposal is accepted, your candidacy for the research degree is confirmed.

Of course, like most administrative procedures, applying for candidacy requires that a form be filled in. Its full title is the Application for Candidacy/Conversion of Candidacy (Higher Degree by Research Students). The Conversion part refers to the situation where a student who has candidacy in one degree, such as a Master of Philosophy, wishes to convert to another degree, such as a PhD. The form is available on the web at <http://research.curtin.edu.au/postgraduate-research/current-research-students/student-forms/>. Make sure you are using the most recent version of this form as it is updated regularly.

In this guide, we refer to this form as the Application for Candidacy Form. It includes several administrative pages and you must attach to these a short proposal for your research, called the "Summary of the Proposed Research Program". You will complete the form with the help of your supervisor. Following completion of the relevant portions by the Supervisor, Chair of Thesis Committee and Head of Enrolling Area, the application will be submitted to the relevant Divisional Graduate Studies Committee for final approval. Master's students have 3 months full-time-equivalent, and doctoral students 6 months full-time-equivalent, from the commencement date of the thesis enrolment, to submit their application for candidacy.

The purpose of this guide is to help you to understand the candidacy process and, in particular, to help you to develop your research summary. Most of what you will need to know is in [Section 3](#) of this guide. Please read this guide in conjunction with the guidelines for writing your research proposal provided on the Postgraduate Research webpage, found at:

<http://research.curtin.edu.au/postgraduate-research/current-research-students/about-candidacy/>

In the remainder of [Section 3](#), we provide an overview of the process for application of candidacy, including the structure of the Application for Candidacy Form and offer some general guidance about administrative and other procedures relating to student supervision. In [Section 2](#), we provide some ideas to help you to conceptualise your research program. [Section 4](#) highlights some common problems you might encounter. [Section 5](#) provides a bibliography of useful references and, in [Section 6](#), there is an example of one student’s summary. You will also find a sample template for writing your research proposal summary in [Section 6](#).

The information in this package was revised to make it suitable for all students at Curtin University. Whilst the sections are generic and suitable for all disciplines, the requirements of each faculty will differ slightly. The research summary provided is an example only and you will need to liaise closely with your supervisor to ensure that you follow the protocols (particularly referencing format) used in your discipline area.

1.2 PURPOSE OF THE CANDIDACY APPLICATION

Overview

The Application for Candidacy Form has several parts. Most of Parts 1 to 4 are to be completed by you. These contain details about your enrolment, the Ethics and Research Practice Clearance (which acknowledges that your research will be carried out according to the University's Guiding Principles), Copyright and Ownership of Intellectual Property: Student Agreement and a Student Declaration of Accuracy.

Parts 3(b) and 5 will be completed by your Head of Enrolling Area. Part 3(b), relating to Copyright and Ownership of Intellectual Property, is signed by the head of Enrolling Area on behalf of the University. Part 5 confirms the composition of your thesis committee and that the Enrolling Area has the facilities to enable you to carry out your thesis program.

Part 6 is completed by the Graduate Studies Officer, at the Graduate Research School, to confirm that you have passed the online Research Integrity Training unit that is appropriate to your discipline. This online unit is available to you through Blackboard and needs to be completed prior to submitting your application for candidacy. Currently, your results are not available for download and you will need to submit a screenshot of your results as evidence of that you have passed this unit. More information can be downloaded at under the *Research integrity training* section on the [Applying for candidacy webpage](http://research.curtin.edu.au/postgraduate-research/current-research-students/about-candidacy/).

<http://research.curtin.edu.au/postgraduate-research/current-research-students/about-candidacy/>

Part 7 is completed at the Divisional Graduate Studies Committee level when your application is approved.

In addition to the form, you are also required to include a Summary of Proposed Research, Data Management Plan and Budget.

The Summary of Proposed Research Program is prepared by you, with your supervisor's assistance. It sets out your choice of topic and approach to research. It can be regarded as a blueprint for your proposed research program and it also serves the administrative purpose of showing the Divisional Graduate Studies Committee that you are able to conduct your planned study within appropriate guidelines and a feasible time plan.

As part of your application for candidacy you are required to complete a Data Management Plan to confirm that your data storage provisions meet the University's requirements. The Data management Planning Tool is available at <https://dmp.curtin.edu.au/> and will need to be attached to the application.

A Student Budget will need to be submitted as part of the application. The Students Budget will be completed in conjunction with the supervisor (a template for which is provided with the Application for Candidacy Form). The budget will need to be signed by the supervisor prior to submission.

The Summary of the Proposed Research Program as a Plan for Research

Most of your time and effort in preparing your candidacy application will be concerned with writing a summary of your proposed research program. The summary of the proposed research program is a scholarly piece of writing. Its preparation will require you to plan and develop your ideas and to express them clearly in the written proposal. The summary of the proposed research program states the problem or question or area of research and why it is important, it

describes the theoretical background and review of literature or other contextual review, and it explains exactly how and when the study will be done.

Developing the summary of the proposed research program allows your supervisor to understand your thinking, the analysis of your research problem, and the planning associated with its solution.

The summary is not lengthy. The Doctoral summary is a maximum of 10 pages, excluding references; the Master's summary is a maximum of 5 pages, excluding references. The summary of the proposed research program, however, should be clear and well written.

There are numerous guides to help to plan and write proposals, below are some examples, available from the Curtin University library, to which you could refer:

- Cryer, P. (2006). *The research student's guide to success* (3rd ed.). Milton Keynes, UK: Open University Press.
- Denholm, C., & Evans T. (Eds.). (2006). *Doctorates down under: Keys to successful doctoral study in Australia and New Zealand*. Camberwell, Victoria: ACER Press.
- Denicolo, P., & Becker, L. (2012). *Developing research proposals*. London: Sage Publications.
- Punch, K. (2006). *Developing effective research proposals* (2nd ed.). London: Sage Publications.
- Wisker, G. (2007). *The postgraduate research handbook: Succeed with your MA, MPhil, EdD and PhD* (2nd ed.). Basingstoke: Palgrave Macmillan.

1.3 OTHER INFORMATION

Guidelines for writing the Summary of Proposed Research

In addition to the specific guidelines for writing your summary of proposed research, most of what you will need to know about applying for Candidacy can be found on the *Research at Curtin* webpage by going to the [Postgraduate research](#) tab and then to the [Current research students](#) page.

<http://research.curtin.edu.au/postgraduate-research/current-research-students/>

It is here that you will find the information related to [applying for candidacy](#) which is particularly relevant to you.

<http://research.curtin.edu.au/postgraduate-research/current-research-students/about-candidacy/>

Support for Proposal Writing

Curtin Life also has a page called [Higher Degree by Research \(HDR\) skills and resources](#) which may support your proposal writing. This page includes other resources which may be helpful at various stages.

Faculty and School Support

Some faculties have developed resources specifically for HDR students. For example, Humanity's [FactPack](#), which is available at

http://hgso.curtin.edu.au/student_info/factpack.cfm.

You may also find there are specific resources developed at the school-level that can support your application for candidacy.

Detailed information about other administrative matters related to your application for candidacy can be found at the following sources.

Rule 10: Degree of Doctor by Research and Rule 11 Degree by Master of Research

Both of these are available in PDF format on the Student policies and procedures page (scroll down to Rules):

<http://research.curtin.edu.au/postgraduate-research/current-research-students/student-policies-and-procedures/>

Guidelines for Students, Supervisors, Head of enrolling Areas and Postgraduate Coordinators

These are available on the [Office of Research and Development website](#).

<http://research.curtin.edu.au/>

Curtin University Postgraduate Students Association (CUPSA) website

<https://www.guild.curtin.edu.au/Clubs/Club.aspx?CID=65>

Role of Thesis Committee

The roles of your thesis committee (committee chairperson, supervisor, and associate supervisor/s or co-supervisor) are detailed at the following website:

<http://research.curtin.edu.au/postgraduate-research/hdr-staff/thesis-committee-members/>

In brief terms, you should expect your supervisor to:

- Direct you to up-to-date developments on your topic and to people with expertise in your field.
- Offer advice and assistance to you about the topic and research question.
- Assist you with drawing up any budget estimate for the proposed research.
- Assist you with preparing a timetable for completing candidacy requirements.
- Advise about ethics clearance and intellectual property.
- Read and respond constructively to drafts of your summary of proposed research program.

Your candidacy application confirms the choice of thesis committee but you need to direct questions about your committee to your supervisor. Your supervisor will explain how your enrolling area appoints your committee and the specific facilities that it will provide for you.

Higher Degree by Research Staff Resources

An alphabetical list of links to policies/procedures, guidelines, rules, or areas within Curtin that are relevant to the management and supervision of Higher Degree by Research (HDR) students can be found at this website:

<http://research.curtin.edu.au/postgraduate-research/hdr-staff/>

The items listed are relevant to thesis committee members, postgraduate coordinators, Graduate Studies Committees and administrators whose work involves HDR student training.

Note about Supervision

Your relationship and interactions with your supervisor are crucial to the success of your research work. In the early stages of your work, collaboration with your supervisor is critical to completion of your candidacy, and later, implementing your research design and preparing your thesis.

Do not underestimate the importance of this relationship. You should feel comfortable with your supervisor. Your supervisor should be a person you respect because she or he stimulates your thinking and creativity and provides you with academic leadership. You should have confidence in this person to "see you through", even when you are at your best and worst as a student. Your supervisor, however, is *not* responsible for the completion of either your course or planning your schedule of work in detail.

You need to establish, very quickly in your relationship with your supervisor, how you both prefer to work and then negotiate how you will work together. Every student/supervisor relationship is different but there are basic guidelines to follow in order that the relationship remains harmonious. A good idea is to discuss the guidelines for establishing the supervisory relationship very early in your candidacy (see "[Student-supervisor relationship](#)").

The [Current research students](#) part of the [Postgraduate research](#) webpage provides guidelines for Higher Degree by research students, as well as details about procedures and associated information for the various stages of candidature.

<http://research.curtin.edu.au/postgraduate-research/current-research-students/>

Briefly, as a Doctoral or Master's student, you are expected to:

- Know all of the University's policies, rules and procedures relating to research and candidacy.

- Identify the area of research that you wish to explore then refine and state the research question.
- Organise regular and frequent contact with your supervisor with an agenda that you have prepared. These types of contact should be organised ahead of time. Types of contacts might include discussion of readings, problems, request for assistance with a procedure, or review of your written work. Contact with your supervisor might be by telephone, fax, email, face to face (in person) or by video-link (e.g. skype).
- Prepare a budget of estimated costs in the proposed research, nominating those to be met personally and those which will receive assistance from the University.
- Inform your supervisor of any unexpected factors which will affect your candidacy timetable.
- Prepare a management plan to complete the application for candidacy. A suggested outline is provided.

Possible Management Plan for Candidacy Application

WHAT	HOW	TIME ALLOCATED	WHEN (DATE)
<p>Conceptualise research design</p> <p>Commence writing</p> <p>Advanced liaison</p>	<p>Literature review Thinking Analysing Reflecting Consulting with others e.g. supervisor</p> <p>Start placing ideas together in writing</p> <p>Early contact with organisations and people anticipated to be involved in your research</p>	<p>1/2 - 2/3 of time</p> <p>Ongoing</p> <p>Ongoing</p>	
<p>Prepare a first draft of summary of the proposed research program</p>	<p>Objectives Significance Research methods Ethical issues</p>	<p>1/4 - 1/6 of time</p>	
<p>Prepare a final draft of summary of the proposed research program</p>	<p>Include refined material and add: Timeline Abstract Title References</p>	<p>1/4 - 1/6 of time</p>	
<p>Complete Application for Candidacy Form</p>	<p>Ensure all parts are completed and signed</p> <p>Complete Budget Risk Management Plan Data Management Plan</p>		
<p>Submit Application</p>	<p>According to guidelines.</p>		

Note about Advanced Liaison with External Organisations Associated with your Research

If your study requires the involvement of external organisations or other people, then it cannot be over-emphasised that you need to make *early* contact with those who will participate. You need to find out whether organisations have policy and guidelines for conducting research in their agency. For example, what are the policy and guidelines for research indicating how researchers need to conduct their work in Western Australian government schools?

At the beginning of preparing your summary of the proposed research program, you need to consider ethical issues. The following questions will help guide your planning.

- What are the general ethical protocols with which you should be familiar?
- How do you gain permission to enter an organisation?
- How do you make initial contact with likely participants in the research?
- How do you gain permission for children/parents/patients/clients to be involved in your research?
- Do you need written permission from all participants in your study?
- What information do you need to provide to people so that their decision to participate in your study is informed?
- What assurances do you need to give to participants on privacy, confidentiality and anonymity if they become involved in your study?
- What interruptions will your study create in an institution?
- Who will own the data that you collect in you study?
- What will be the consequences of your research on the people that you involve?
- Will your research harm individuals or groups of people?
- What consideration do you need to give about the amount of time you might ask people to be involved?
- What and how will you provide feedback, both interim and final reports, to the people involved in your study?
- How will you acknowledge people's contributions to your research?
- Does your research serve self-interest rather than respect the dignity of the people in your study?
- What considerations are necessary in writing up your thesis as a public document?

Several research organisations publish their guidelines for ethics in research. The following sources provide guidance.

Australian Association for Research in Education (AARE) <http://www.aare.edu.au>

American Educational Research Association (AERA) <http://www.aera.net/>

Australian Nursing Federation website is <http://www.anf.org.au/>. It has a policy for Research downloadable under publications.

Australian Nursing and Midwifery Council Incorporated (ANMC) website is <http://www.anmc.org.au/>. It has available codes of ethics and professional conduct.

The Australian Code for the Responsible Conduct of Research can be downloaded from <http://www.nhmrc.gov.au/publications/synopses/r39syn.htm> and the National Statement on Ethical Conduct in Human Research is available at <http://www.nhmrc.gov.au/publications/synopses/e72syn.htm>.

2. CONCEPTUALISING YOUR RESEARCH STUDY

2.1 INTRODUCTION

"When we speak of research, we speak of a family of methods that share the characteristics of disciplined inquiry" (Shulman, 1997, p. 8). When Lee Shulman, a noted educational researcher, wrote these words, he was offering new researchers two ideas. First, research is disciplined, that is, it is structured not haphazard: "its data, arguments, and reasoning [are] capable of withstanding careful scrutiny by another member of the scientific community" (Shulman, 1997, p. 9). Second, Shulman was pointing out that there is no one way to do research, there are many, but they share the characteristic of being disciplined inquiry.

Keep these two points in mind as you begin to analyse your research topic, as they will help to keep you on track.

It is recommended that you seek further information on disciplined inquiry, especially as it refers to your discipline area.

2.2 THE RESEARCH TOPIC: WHERE TO START?

A critical step at the beginning of your proposed research is to define the issue to be explored and to respond honestly to these questions.

- Is the research topic of sufficient interest to sustain you through the whole of your thesis enrolment?
- Is the research "do-able", that is, can it be conducted and managed by you?
- Will the research be worthwhile and make a contribution to knowledge in your field?
- Will you be able to obtain data and protect the confidentiality of your data sources?

If you cannot answer "yes" to all of these questions, you need to reconsider or perhaps refocus your research topic. Talk to your supervisor early, so that your energy can be directed towards a do-able research study that is of interest to you.

Once you have settled on a topic, you can begin to think about your research in more detail. This requires an expansion of your research topic into a statement of your research problem, that is, the specific issue to be investigated in your research. Expressing the research problem as a question, or a series of questions, often helps you to clarify the research problem. Eventually, you need to be able to state the research questions, that is, the objectives of the study, concisely and in a way that they can be answered.

To help you get started, it is a good idea to:

- Pose an initial research question to help to clarify your statement of the research problem. The question may be as broad as "What is happening in this classroom?" or "What are the lifestyle characteristics of a person with Type II Diabetes?" Later you may refine or even change your initial question. However, you need a starting point to lead into the exploration of your topic.
- Commence reading widely around the topic, recording your reference material and highlighting and storing significant quotable sources. Your reading should include books, journal articles, conference papers, and other theses related to your topic. You can store your references in computer programs such as Endnote (available from the Curtin University library website).

How you state your questions will guide your research approach.

Examples of research questions.

Research Topic	Stated as a Research Question/s
The use of graphic calculators and other teaching approaches to enhance the learning of vectors in Year 11 mathematics.	What is involved in students' development of deep understanding of vector concepts? How might the use of graphic calculators enhance students' learning of vector concepts?
Culture, world view and conceptualisation of nature: An interpretive analysis of high school students' scientific literacy.	How do the cultural backgrounds of school students affect their world view and what relationship is there between this world view and students' scientific literacy?

2.3 EXPLORING THE RESEARCH PROBLEM

Background reading

The purpose of your background reading is to explore many ideas that will enable you to develop a framework for your study. Your reading should clarify, contextualise and summarise the research problem. Your reading will expose you to different types of frameworks that could be used to conduct your research.

The library at Curtin University provides a rich resource for research students, including guides to using the library, library services, databases to search, research support and referencing resources. Also available from the library are resources to help students to master research (including seminars) LisWeb and Web search. The library is available on <http://library.curtin.edu.au/>.

The catalogue search available at the library enables you to search the libraries at Curtin as well as other West Australian, Australian and International libraries.

The literature search associated with your research topic should cover general literature, literature on previous findings, specific studies related to your topic, literature on research methods, and literature on ethics.

Your background reading provides you with a context for your research, for example, in terms of:

- history and time;
- locations, settings, or environments;
- knowledge about your topic;
- trends and developments in the field;
- philosophical, sociological, psychological, scientific, educational, and other theories that are associated with your topic; and
- methodological approaches or conceptual models/frameworks associated with your topic.

Refining, Reformulating or Restating the Research Problem

From your background reading, literature searches, and discussions with your supervisor and others, you may discover that you need to reformulate and restate your question about the research problem. It is at this point that the basic research question needs to be framed. Subsidiary questions should be considered and also stated. These secondary questions are important because they will help you to define the types of information you will collect. Too many secondary questions may lead you into a research process that you cannot manage realistically.

2.4 THE RESEARCH DESIGN

Approaches to Research

There are many books and journal articles on approaches to research and each one usually classifies them differently. There are many approaches to research. The approach you choose should be the one that best helps you to answer your research question.

Research can be classified according to its approach. These approaches are defined by one's conception of reality and how one searches for "truth". Some approaches are broad-based, like empirical, interpretative, or critical research. Other approaches are more specific, like action research.

Historically, research methods in the social sciences have been closely modelled on the scientific method using experimental and control groups, dependent and independent (or controlled) variables, and results expressed in statistics. More recently, new approaches to research have developed, and terms such as naturalistic research, grounded theory, and narrative accounts of experience have emerged.

Categories of research approaches are not mutually exclusive. For example, you may conduct philosophical inquiry but use narrative accounts of experiences (both of participants and your own as a researcher) to generate your data. Some literature on research methods will categorise research approaches as quantitative and qualitative. These terms, however, describe different types of data and they are not good descriptors of research approaches. For example, in a case study, you might collect quantitative and/or qualitative information.

Different publications are likely to focus on different approaches, for example information related to historical, developmental, surveys, case studies, correlational, ex post facto, experiments, quasi-experiments and single-case research, action research, accounts can be found in:

Cohen, L., & Manion, L. (2000). *Research methods in education* (5th ed.). London: RoutledgeFalmer.

Alternatively, experimental, quasi-experimental, ex post facto and survey, historical, ethnographic research can be found in

Wiersma, W. (2000). *Research methods in education: An introduction* (7th ed.). Boston, MA: Allyn and Bacon.

Information about experimental, quasi-experimental, non-experimental, survey, evaluation, retrospective studies, prospective studies, case studies, historical can be found in:

Maltbey, J., Williams, G.A., Mccarry, J., & Day, L. (2014). *Research methods for nursing and healthcare*. Hoboken: Taylor and Francis.

Books related to research methods are widely available and can be found for various discipline areas.

Standards in Research

Traditionally, the quality of research has been judged by its rigour, validity and reliability. Standards in research using quantitative data are different from those in research using qualitative data, however, they have the same purpose of promoting disciplined inquiry.

Leedy and Ormrod (2005) describe the standards for research using quantitative data where validity and reliability are of importance.

Leedy, P. D., & Ormrod, J.E. (2005). *Practical research: Planning and design* (8th ed.). New Jersey: Prentice Hall.

Guba and Lincoln (1989) suggest that qualitative data should be trustworthy and authentic to maintain standards in research.

Guba, E. G., & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage.

In naturalistic inquiry, standards of verisimilitude, voice, and resonance provide a new focus on ways that we can judge the quality of our research activity (including the writing).

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2005). *The SAGE Handbook of qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.

Yin, R. K. (2011). *Qualitative research from start to finish*. New York: Guilford Publications.

Data Collection or Generation

Data collection methods or measurement instruments will be appropriate depending on the research approach that you have chosen. You will need to consider:

- From whom/what will the data be collected? Eg. population, sample, participants?
- How will the data be generated? Eg. by personal experience, imagination, questionnaire, interview, document analysis, observation, stories, journals?
- When will the data be collected?

Representation of Data

More often than not, the written presentation of research is a report (such as a thesis) using writing techniques such as the third person, past tense and passive voice. Distance is often created between the researcher and the researched.

More recently, alternative ways have emerged in representing the results from research. Van Maanen (1988) suggests that narrative forms of representation are legitimate. However, in this type of representation, literary criteria are more appropriate. For example, judgements of quality require that questions are asked, such as: Is the story believable? Is the story told in a compelling way?

Often the narrative form of representation can be written in the first person, the present tense, and the active voice. Thus, the voices and the positions of both the researcher and the researched are more equally represented. Narrative research is usually deeply contextual and attempts to specify individual cases to find universal ideas.

Van Maanen, J. (1988). *Tales of the field: On writing ethnography*. Chicago, IL: The University of Chicago Press.

Data Analysis: Descriptive or Interpretive?

Qualitative and quantitative data have to be analysed in different ways because they are different kinds of data.

In quantitative hypothesis-testing research, the data analysis is straightforward, because the data have been collected specifically to make statistical tests and draw conclusions.

In historical, ethnographic, interpretive, or critical research, for example, the data are the means of generating explanations for what is observed.

A lot of thinking is required to decide the best way to summarise and represent the data in order to draw conclusions or make assertions and report them. Here is one comparison between analysing quantitative and qualitative data.

<i>One comparison between analysing quantitative and qualitative data</i>		
Quantitative Data	Stage	Qualitative Data
Numbers which represent variables or concepts	Raw Data	Words or pictures which represent ideas
Statistical analysis to obtain summary statistics, eg. mean, standard deviation	Organisation of Data	Logical analysis to sort data into categories or sequences
Statistical tests of hypotheses if there is a need to generalise to a wider population	Analysis and Interpretation	Development of assertions which describe the meaning of the data
Words to describe and tables and/or graphs to illustrate findings	Description and Display of Findings	Words to describe and quotes and/or vignettes to illustrate findings. Include supporting and counter (opposing) examples
Conclusions in terms of research questions or hypotheses	Conclusions	Conclusions by reformulating/refining assertions

3. WRITING THE SUMMARY OF PROPOSED RESEARCH PROGRAM

The format of your summary of the proposed research program should follow the guidelines provided on the Application for Candidacy Form. The length of your summary of the proposed research program is clearly specified (Doctoral summary: maximum of ten pages excluding references; Master's summary: maximum of five pages excluding references). The format for the summary of the proposed research involves the following sections, each of which are expanded upon below.

Start with your [Title](#), followed by

[Abstract](#)

[Objectives](#)

[Background](#)

[Significance](#)

[Research Method](#)

[Ethical Issues](#)

[Facilities and Resources](#)

[Data Storage](#)

[Time Line](#)

[References](#)

An example of a proposal is provided at the end of [Section 6](#) examples should be used in conjunction with the information in this section to help you to better understand what is expected under each heading.

A template has also been provided in [Section 6](#).

3.1 CHOICE OF TITLE

The [Application for Candidacy Form](#) requires that you propose a title for your thesis. Put this title at the top of your summary of proposed research program, before the abstract, to remind the reader of your research topic. The proposal title is short (certainly less than 20 words), but accurately describes the research problem. The title needs to be as close as possible to the final title of your thesis. Any later change to the title must be approved by the Divisional Graduate Studies Committee. This can be done closer to the time when your thesis will be submitted for examination.

Examples of Titles

Culture, World View and Conceptualisations of Nature: An Interpretive Analysis of High School Students' Scientific Literacy.

The Use of Graphic Calculators and other Teaching Approaches to Enhance the Learning of Vectors in Year 11 Mathematics.

A Longitudinal Study of Students' Perceptions about Science during Transition from Primary to Secondary School.

Partnership in Care: A Descriptive Study of the Situation in Rural Western Australia.

Tectonic Setting and Tectonometamorphic Evolution of Fuping-Wutai-Hanshan Orogenic Belt, China.

Scheduling of Batch and Mixed Batch/Continuous Process Plants using Petrinets.

Impact Assessment of Poverty Alleviation Strategies on Rural Women: Case Studies from Jamaica.

The Role of an Effective Tax Administration in Encouraging Greater Compliance with Taxation Laws in Indonesia.

3.2 ABSTRACT

The abstract is a summary of your study written in very clear and plain writing. It should be no longer than half a page.

Example of an Abstract

Title:

A Longitudinal Study of Students' Perceptions about Science during Transition from Primary to Secondary School.

Research evidence suggests that students' perceptions about science generally become less positive as they progress through the schooling system, and that this trend is more marked amongst girls. Fewer girls than boys enrol in the physical sciences in the later secondary years, and pursue careers that involve science. This study follows female students who express an interest in a scientific career at the end of primary school (Year 7 in Western Australia) during their transition from primary to secondary school to investigate the nature and extent of the changes in their perceptions about science at this time. The study will focus particularly on the ways in which female students react to the differing student/teacher relationships and the change in teaching strategies between primary and secondary school, and subsequent changes in their personal construction of science.

3.3 OBJECTIVES

In this section, the research problem is outlined. It must contain sufficient information to let the reader know what the study is about and, specifically, what aspects your study will address.

You need to:

- briefly outline the purpose of the research;
- state the problem in general terms; and
- state the research question and any subsidiary questions, making it very clear what your research will be aiming to find out.

3.4 BACKGROUND

This section of your summary of proposed research contains a critical review of the literature that you have found in the area. It must be clearly related to your problem. The references cited in the text must use style conventions approved by your school. For example, the School of Education, and the School of Nursing use the American Psychological Association (APA) format.

The review of literature is an important part of the summary of a proposed research program because it shows that you have read other research in the area and used this to inform you of the best way of attempting to solve your own research problem.

The literature review must show that you have thoroughly searched the literature and understood what it means for your research problem. It must show that you have been able to distinguish good research from bad, and relevant research from irrelevant research. It must also show what the literature says that is important for your research problem. You need to:

- give some background to the research problem;
- analyse what the literature says about the problem;
- explain the meaning of the important terms;
- explain how the research literature helps you to understand the problem; and
- provide any theoretical, conceptual or methodological framework that can explain your problem.

Here are some ideas for use in writing the review of literature.

Overview/Introduction: Explain how the review is organised.

Topic Headings: Organise a critical review into topics associated with the problem.

Theoretical, Conceptual or Methodological Framework (if relevant): Express your research problem in terms of a framework derived from the literature.

Summary: Draw all of the main points together and describe what the review means for your study.

3.5 SIGNIFICANCE

This section should say how your research adds to knowledge or makes an original contribution to knowledge. You should show:

- how the results from your research could be used to help the target population;
- why the results could be important for other people in your field and how they can be used; and
- how the results could be important for other researchers.

Example of a Significance Statement

Title:

Heat transfer enhancement and fluid flow characteristics associated with jet impingement cooling

While the study of impinging jets has been underway for many years now, very few correlations exist to relate heat transfer to a particular jet geometry and flow condition. One of the objectives of this research project is to move towards rectifying this shortfall by developing a correlation for impinging jets on small scales, and achieving this will be a significant contribution to the field as correlations of this nature greatly aid the design process and allow an emerging technology to move from the academic arena to an industrial one. This ultimately benefits industry by increasing efficiency and reducing costs. A second outcome of this study will be additional data supporting the currently available numerical models for Computational Fluid Dynamics, or alternatively highlight areas where these models are inapplicable or inadequate. This in turn provides a stimulus for investigation into new or improved mathematical models that more accurately represent the physical reality.

3.6 RESEARCH METHOD

This section is important because it shows that you have thought carefully about how the research will be carried out. The structure and content of the research method part of the summary of proposed research will depend upon the nature of your research problem. There should be sufficient detail to enable the reader to judge whether your study is likely to be successful.

The purpose of this section is to explain how and where you will carry out the data collection and analysis for your research. It gives reasons why you have chosen your sample and method of data collection. It provides details about the data collection methods including why and how they will be used and the sites where the data collection will occur. You need to:

- briefly outline the research method;
- state where the research will be carried out;
- describe what sample will be used, or who the participants are likely to be;
- consider whether a contingency plan is required (particularly with studies relying on recruitment or sequential stages that are dependent on the previous stage).

Here are some ideas about the types of decisions you will need to make.

- What kind of research design will be used? What are the advantages and limitations of the design?
- What is the target population or who are the participants? What and where are the research site/s?
- Will a sample be used? If so, how big will it be, how will it be selected, and will it be representative of the population?
- What instruments will be used? Do they include the researcher? How were they selected/developed? What evidence will be given about their validity and reliability (or other standards)? Are they the best instruments to use?
- When will the data be collected or generated (in terms of time and relation to the research variables)? By whom?
- Will a pre-test or pilot study be used? If so, why? What action will be taken on the basis of the results?
- What methods of data analysis will be used? Why have you chosen these methods? Are they appropriate? Who will do the analysis?

3.7 ETHICAL ISSUES

In preparing your summary of proposed research for Master's and doctoral theses, a statement about your consideration of ethics is required. The following notes provide guidance on the kinds of things you might need to cover in writing this section. The Australian Code for the Responsible Conduct of Research states “Researchers must comply with ethical principles of integrity, respect for persons, justice and beneficence”. The Code can be downloaded from <http://www.nhmrc.gov.au/publications/synopses/r39syn.htm>.

The statement must indicate that you are aware of, and have taken steps to account for, ethical issues relating to data collection and reporting in your research project. This relates to your responsibilities as the researcher. Considerations need to be made with respect to the dignity and worth of persons and the welfare of research participants. The public generally shall take precedence over the self-interest of researchers or the interests of employers, clients, colleagues or groups.

Researchers have responsibility to do the following things and, in preparing your summary of the proposed research program, you should ensure all those points that are relevant to your study are addressed.

Information

- Make clear the aims of the research, your position as the researcher (for example, you might be a teacher in the school, or you might be a stranger to the data collection site) and how the results will be used. For example, this could be done in a letter to potential participants seeking permission to undertake the study.
- Provide feedback to participants on the progress of the study, including any interim results. This may include giving participants the opportunity to verify the data collected, particularly if it is qualitative.

Permission

- Written permission must be obtained from participants. Permission may include: permission from parents/guardians for children; from participants to be observed or withdrawn from their study; or permission to gain access to a site, such as a school.
- Parents/guardians need to be given the opportunity to be present at interviews, especially with young children.
- Participants should be made aware that they may withdraw from the study at any time.

Privacy and Confidentiality

- Provide a written guarantee of privacy and confidentiality to individuals and organisations from whom data are collected.
- Participants have the right to remain anonymous. Change names so that participants cannot be identified.

Consideration

- Plan data collection so that there is as little disruption as possible, e.g. with respect to the teaching/learning program there will be no lengthy absences from class, or interruption of lessons.

- Co-operate with those at the research site in terms of participation by the researcher in the proceedings, eg. Where will the researcher sit to observe? What will the researcher record? How will the researcher be introduced? Will the researcher be able to speak to participants during observation?

Acknowledgment

- The co-operation and contribution of all participants should be acknowledged in a way that retains confidentiality unless otherwise requested.

Your statement in the summary of the research proposal should describe the procedures you will adopt throughout your research to ensure a high ethical standard.

If there are no humans or animals involved in your study, you might simply state:

“This research program does not require testing to be done on humans or animals and does not involve potentially dangerous equipment of any kind.”

Example of an Ethics Statement

Title:

A Longitudinal Study of Students' Perceptions about Science during Transition from Primary to Secondary School.

Students, their parents and teachers will be involved in providing potentially sensitive information for this study. Written permission notes will be obtained from the people concerned, as well as from the principals and heads of departments as appropriate, to collect the necessary data. Because the students will be only eleven or twelve years old when they are initially approached, interviews with them will be completed in the presence of their parents whenever possible. This practice has the advantage of keeping the parents informed, and it also means that the interviews will be done out of school time, causing as little disruption to both students and teachers. The students and parents will receive feedback as the research progresses. When the study is completed, altering the names of the people and schools will protect confidentiality.

3.8 FACILITIES AND RESOURCES

In this section you must outline the material and financial resources required for the completion of your study. Check with your supervisor about any special facilities and resources you may require from your school or centre for your particular study.

Refer to the “Guidelines for Essential Facilities for Higher Degree by Research

Students” available from the following website: <http://research.curtin.edu.au/postgraduate-research/current-research-students/student-policies-and-procedures//>. You can scroll down and find a PDF for download called “Essential Facilities for Higher Degree by Research Students”.

Examples of Facilities and Resources Statements

Title:

A Longitudinal Study of Students' Perceptions about Science during Transition from Primary to Secondary School.

No resources or facilities, beyond those outlined in the *Essential Facilities for Higher Degree by Research Students* document (version XXXXX), are required to complete this study.

Title:

Scheduling of Batch and Mixed Batch/Continuous Process Plants using Petri-nets

No special resources or facilities are required to complete the study other than Visual C++ version 6 Software, which will be used for simulation.

3.9 DATA STORAGE

There are important legal, statutory, ethical and other requirements surrounding the storage of research data. The creation of a Data Management Plan ensures that all policies and legal requirements have been taken into consideration. The Data Storage section of your summary requires you to provide details that confirm that your storage provisions meet the Curtin University [Research Data and Primary Materials Policy](#). A data management plan should be completed using Curtin University's Data Management Planning tool (<https://dmp.curtin.edu.au/>) and attached to your Application for Candidacy Form. The plan should include a description of the data to be stored, location and security arrangements of stored data, the persons who have access to the data and any plans for publishing the data during or upon completion of the project. Note that the Western Australian University Sector Disposal Authority requires that data be stored for a minimum period of at least seven years from the date of publication. Some types of research may require longer terms of storage (e.g. clinical research requires 15 years). Wherever possible, primary materials must be retained in the department or research unit in which they were generated and a copy of electronic data should be retained on Curtin University's R: drive.

The online Planning tool will guide you through the process and has many examples that you can draw from (see the text box, below, for two examples). You may also find the associated [Library Guide](#) helpful.

The following text indicates that you have done this process and should be included in your summary:

“The data storage provisions are outlined in the attached Research Data Management Plan and meet the Curtin University Research Data and Primary Materials Policy.”

Examples of the sorts of information provided in the Planning tool

Example of storage arrangements for a fictitious research project:

For the duration of the project, the physical data sheets will be stored in a filing cabinet in the principal investigator's office. Upon completion, the principal investigator will work with central Records and Information Management to find a suitable long-term storage location.

When in the field, data will be stored on the primary investigator's laptop and backed up to an external USB hard drive on a nightly basis.

Upon return to Curtin University, all digital data will be transferred to Curtin's R Drive.

Example of safeguarding measures for a fictitious research project:

For the duration of the project, the physical data sheets will be stored in a filing cabinet in the principal investigator's office. Upon completion, the principal investigator will work with central Records and Information Management to find a suitable long-term storage location.

When in the field, data will be stored on the primary investigator's laptop and backed up to an external USB hard drive on a nightly basis.

Upon return to Curtin University, all digital data will be transferred to Curtin's R Drive.

3.10 TIME LINE

In this section you will provide a timetable of when the major stages of your research will be completed needs to be included. The time schedule should be realistic and decided upon in consultation with your supervisor. There are many ways to present your timeline, below are two examples.

Example of a Time Schedule Statement

Title:

A Longitudinal Study of Students' Perceptions about Science during Transition from Primary to Secondary School.

STAGE ONE

- Nov Year 1: Survey 30 year 7 students about science and their futures.
- Dec Year 1: Select sample of six students comprising both girls and boys.
- Dec Year 1: Interview the sample and their parents.
- Jun Year 2: Interview sample again about their experiences of year 8 science.
- Dec Year 2: Interview sample again about attitudes to science and career choices.
- Jun Year 3: Further interviews about attitudes to science, subject choices and career aspirations.

STAGE TWO

- Nov Year 2: Survey 70 year seven students. Administer attitude survey to 60 students.
- Dec Year 2: Select a sample of six students.
- Dec Year 2: Interview the sample of year 7 students and their parents.
- Feb Year 3: Lesson observations of first science lessons of selected students in year 8. Interviews of students to ascertain their initial impressions of high school.
- Mar/Apr Year 3: More lesson observations of year 8 students.
- Apr Year 3: Interviews of observed students.
- Jun Year 3: Final observations and interviews of students.
- Jul Year 3: Interview non-observed students who attend their school.
- Aug Year 3: Administer attitude survey to interviewed students and their classes.
- May-Nov Year 3: Data analysis.
- Jun/Jul Year 3/4: Writing of thesis

Here is another example of a timeline:

	Months from January 2016									
Activity	3	6	9	12	15	18	21	24	27	30
Preliminary literature review										
Definition of the problem										
Preliminary numerical studies										
Review of preliminary work										
Numerical studies										
Construction experimental rig										
Collection of experimental data										
Data analysis										
Thesis preparation										

3.11 REFERENCES

Every reference that you cite in the proposal must be included in a list of references at the end of the proposal. Do not include any references which are not explicitly cited in your proposal. The library provides access to referencing software as well as style guides and other information (<http://libguides.library.curtin.edu.au/referencing>).

There are many acceptable styles of referencing. Decisions about referencing style should be made in consultation with your supervisors. Examples of reference styles that may be suitable for your area are indicated in the table, below.

<i>Referencing styles which may be suitable for your area</i>	
Aboriginal Studies	Chicago Author-Date 16 th Edition
Biomedical Sciences	APA 6 th Edition; Chicago Author-Date 16 th Edition; Vancouver
Education	APA 6 th Edition
Humanities (from Social Sciences)	APA 6 th Edition; Chicago Turabian (footnotes)
Mechanical Engineering	IEEE
Nursing	APA 6 th Edition
Pharmacy	Vancouver

3.12 CANDIDACY SEMINAR

Your enrolling area may require you to present a draft research proposal, either to a research committee or in the form of a seminar, so that it can be reviewed prior to your candidacy application being submitted for approval. Check with your supervisor about the format for the candidacy seminar as this will vary for different enrolling areas.

These seminars can be very helpful and informative, as they provide an excellent opportunity to get feedback on your proposal from your peers, and can lead to useful contacts and other sources of information. Learning about the programs of study being undertaken by others in your area can also provide comparative and/or complementary information on the progress and direction of your own research.

3.13 SUBMISSION OF PROPOSED SUMMARY OF RESEARCH TO TURNITIN

Once you have written your research description, you will be required to submit the document to Turnitin. This function is available in your student OASIS account. Turnitin will generate a similarity report that you are required discuss with your supervisor and make changes where appropriate. The originality/similarity report should be submitted with your application for candidacy along with a response, written by you, outlining the changes that you made in relation to the result.

Information about Turnitin is provided on the following Curtin research webpage, and in the downloadable candidacy form from the same website:

<http://research.curtin.edu.au/postgraduate-research/current-research-students/about-candidacy/>.

Checking the research proposal and thesis chapters for originality will assist you in minimising potential for plagiarism. Turnitin access for HDR students is located within the '*Research Integrity – HDR*' training on Blackboard. To better assist you, you might like to view the PDF: [Information on Originality Checking \(Turnitin\) of the Candidacy Proposal and Thesis Chapters](#).

To access:

1. Login to [Student OASIS](#).
2. Click on the link to **Blackboard**, and select the '**Research Integrity – HDR**' training.
3. From the left hand menu, select the heading 'Originality Checking'. Full instructions are located in the ensuing screens.

General information about Turnitin is available from Curtin's Academic Integrity website: [What is Turnitin?](#) And [Turnitin for Students](#).

Queries about this requirement for the candidacy proposal can be forwarded to GRS.training@curtin.edu.au

4. COMMON PROBLEMS IN CANDIDACY APPLICATIONS

Here are the common problems found with the Application for Candidacy Form:

1. Information is illegible or incomplete.
2. The FOR code is missing: Don't leave it out – your supervisor will advise you.
3. The Ethics and Research Practice Clearance – all relevant boxes not ticked and/or information incomplete.
4. Signatures are missing on the form.

Some common problems found in the Summary of the Proposed Research Program:

1. The abstract is not clear and precise.
2. The research problem/questions/objectives are missing or ill-defined.
3. The background section is not tied clearly to research problem.
4. The significance of the study is confused with the background or fails to define significance clearly.
5. Research method poorly explained, or does not clearly address the research problem/questions/
6. The research method is not feasible in time or scope.
7. The explanation of treatment of Ethics issues is inadequate.
8. An ethics approval application is required but has not been made.

Your supervisor is there to help you and can assist in checking all parts of the form and the Summary of the Proposed Research Program.

5. BIBLIOGRAPHY

The following list contains some resources you may find useful in preparing your summary of proposed research program, as well as later in your research program. In addition, there will be resources specific to your field of research. Note, some of these have already been referred to in earlier sections of this document.

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6. SAMPLE PROPOSAL

In this section, you will find:

- 6. An sample proposal, and
- 6.1 A sample Proposal Summary Template.

6. SAMPLE PROPOSAL

EDUCATION - A Longitudinal Study of Students' Perceptions about Science during Transition from Primary to Secondary School

Summary of Proposed Research Program for Doctor of Science Education

Title

A Longitudinal Study of Students' Perceptions about Science during Transition from Primary to Secondary School.

Abstract

Research evidence suggests that students' perceptions about science generally become less positive as they progress through the schooling system, and that this trend is more marked amongst girls. Fewer girls than boys enrol in the physical sciences in the later secondary years, and pursue careers that involve science. This study follows female students who express an interest in a scientific career at the end of primary school (Year 7 in Western Australia) during their transition from primary to secondary school to investigate the nature and extent of the changes in their perceptions about science at this time. The study will focus particularly on the ways in which female students react to the differing student/teacher relationships and the change in teaching strategies between the primary and secondary school, and the subsequent changes in their personal construction of science.

Objectives

The general research question asks whether the transition between primary and secondary school is a critical time in the forming of attitudes for future subject and career choices and, if so, whether there are school based reasons for this. Specifically, the study will investigate:

How do students' perceptions of, and attitudes to, science change during their transition from primary to secondary school?

How are students' perceptions of, and attitudes to, science affected by:

- the student/teacher interaction in the science classroom?
- the teaching and learning strategies used for science?

The study focuses particularly on girls because the research evidence suggests that girls are more likely than boys to experience greater affective change during the period of transition, and they are more likely to opt out of science in the future.

Background

The research evidence indicates that both boys and girls demonstrate a decrease in positive attitudes towards science throughout the school years (Baird et al, 1990; Schibeci, 1986; Yager & Yager, 1985); that the decrease is more pronounced amongst girls (Dekkers et al, 1991; Evans, 1988; Parker, 1987); and that the most dramatic change occurs during the transition from the primary to the secondary system (Baird et al, 1990; Eccles, 1989; James & Smith, 1985; Linn & Hyde, 1989; NBEET, 1993; Parker, 1984; Yager & Yager, 1985).

The masculine image of science is well documented (Easlea, 1986; Kahle, 1987; Kelly, 1985; Leder, 1989; Lewis, 1993; Weinreich-Haste, 1979), and is exemplified by the greater number of males than females teaching and studying science; the predominantly male-oriented examples in text books; the gender differentiated classroom behaviours of teachers and students; the intrinsic "scientific" thinking of males; sex bias in assessment items; and the portrayal of science by the media. However, it has also been demonstrated that until the final

year of primary school, interest in, and attitudes to science are not very different between boys and girls. So, given that girls may have a predisposition (because of the socialising process) to become less interested in science, what is the catalyst at this particular time?

There is little argument that boys dominate secondary science lessons in overt ways, such as answering more questions; intimidating the girls during activities; and seeking more teacher attention (Taber, 1992; Tobin, 1987; and Weinekamp, Jansen, Fickenfrerichs & Peper, 1987). Added to this is the already mentioned factor of masculine bias in science texts and assessment items. However, during the primary school years, very few science texts are used, and formal assessments are minimal, so girls are less likely to experience such bias. Further, if the dominating behaviour of the boys is apparent during science, then it may partly be neutralised by opposite behaviours with the same teacher in other lessons.

There is considerable evidence that the enacted science curriculum in secondary schools is driven by the tertiary entrance exams. Rennie (1984) and Ferguson (1991) found that primary teachers considered attitudes to science to be more important than knowledge, while the reverse was true for secondary teachers. Primary teachers made curricular decisions based on subject integration and the needs of the students, whereas secondary teachers were content driven, and saw themselves as information givers. Tobin (1987) reported that laboratory activities in secondary schools both in Western Australia and the US "tended to be of a cookbook type with little opportunity for students to plan investigations or to interpret results. The emphasis was on collecting data" (p. 41). This contrasts sharply with the degree of independence which primary students enjoy when devising ways of answering a problem (Dawson & Shipstone, 1991). Baird et al. (1990) noted the disappointment of students beginning secondary school. They believed that secondary science would be interesting, active and fun, and would involve "doing experiments, dissections, investigations and projects" (Baird et al., 1990, p. 13). Instead, the students felt like they just copied notes or watched demonstrations, and were not given any "real work" (Baird et al., 1990, p. 13).

Apart from the different views of science which primary and secondary teachers appear to hold, which then affects their teaching styles, the other change to which students may find it hard to adjust is the altered teacher/student relationship. Ferguson (1993) found that in the first year of secondary school, girls were more concerned about missing teachers, friends and the close classroom environment of the primary school, while the boys' focus was more on facilities, such as a better canteen, and organisational issues like finding their way around the school. Midgely, Feldlaufer and Eccles (1989) concluded that student/teacher relationships deteriorated after the transition from elementary school to high school, and that this had a detrimental effect on students' motivation. Girls were found to be particularly affected, although all students were vulnerable.

There are differences in the organisation of classes, teachers and subjects between the two levels of schooling: primary school classes generally have one teacher (apart from the occasional specialist) who teaches all subjects in one room; secondary students have different teachers, rooms and classmates for each subject. The primary school structure is more conducive than that of the secondary school to close student/teacher relationships. In addition, the specialist areas and training of the secondary staff appear to lead to a greater emphasis on covering content, and a reduction of the problem solving and practical activities which are prevalent in primary school classrooms. The literature has shown that students' construction of science during the transition between primary and secondary school undergoes significant change. It may be that girls' perceptions of science suffer during the transition years because of the changes mentioned here. Perhaps it is because girls feel less comfortable in the secondary school environment that their attitudes to science become less positive.

This study will examine how the changes in the teacher/student relationship and teaching strategies during transition from primary to secondary school affect girls' perceptions of, and attitudes to, science. There is research evidence available on these changes based on large statistical information over the transition period (Baird et al., 1990; Ferguson, 1993). However, Yates (1993) noted that in large studies, the difference between what is statistically significant and educationally significant can be lost because responses from different environments could cancel each other out, and that:

for the purposes of improving teaching, what is valuable to know is the characteristics of particular students in a particular classroom; the need is for knowledge and strategies which are context-specific. (Yates, 1993, p. 56)

Therefore, qualitative research methods will be used to collect detailed data on a small number of students during their transition from primary school to high school.

Significance

The study is significant for four reasons. First, it is likely to provide new information about students' construction of science in the period of transition between primary and secondary school. It is likely to lead to a greater understanding of when and why attitudes to subject and career choices are formed, and hence contribute to more equitable subject choices in science in post-compulsory education. Second, it is likely to have implications for teaching practice by highlighting strategies that are both gender inclusive and more likely to result in improved student attitudes to science. The third area to which the study is likely to contribute is in developing transition programs in science, including those in the middle schools recently created in Western Australia. Finally, the research method used in the study is focused on gaining detailed qualitative data about a small number of students but against a background of more general quantitative information from surveys of a larger group. The combination of quantitative and qualitative methods is designed so that the small sample selected is typical of the larger group, and that the fine-grained data necessary to examine the changes in perceptions and attitudes during the transition from primary to secondary schooling can be collected in context.

Research Method

The study uses a longitudinal research design with two overlapping phases. A large sample of year seven students completed a questionnaire designed by the researcher. An attitude survey (Webster, Rigden, Medcalf, Heward, & Lovitt, 1994) was also administered to the large sample. Based on the information collected, a small number of students was selected for the second phase, which included semi-structured interviews and classroom observation during the transition from primary to secondary school. The small sample met the following criteria: they were female; liked science in primary school; had science-related career aspirations; were high achievers; intended to enrol at the local government high school; and had their parents' permission and cooperation to participate in the study. The study is taking place in a large metropolitan high school, and its three local feeder primary schools, so that the small selected sample is accessible.

The data collection is in two stages. During stage one, the questionnaire and attitude survey was trialed, and the feasibility of following the selected students into their high school classes was examined. The structure of the interviews was tested, and the research questions were refined. The following year, in stage two, the process was repeated with another group of year seven students moving into year eight, while the first group was tracked into year nine.

Ethical Issues

Students, their parents and teachers will be involved in providing potentially sensitive information for this study. Written permission notes will be obtained from the people

concerned, as well as from the principals and heads of departments as appropriate, to collect the necessary data. Because the students will be only eleven or twelve years old when they are initially approached, interviews with them will be completed in the presence of their parents whenever possible. This practice has the advantage of keeping the parents informed, and it also means that the interviews will be done out of school time, causing as little disruption to both students and teachers. The students and parents will receive feedback as the research progresses.

When the study is completed, altering the names of the people and schools will protect confidentiality.

Facilities and Resources

No special resources or facilities are required to complete the study.

Data Storage

The data storage provisions are outlined in the attached Research Data Management Plan and meet the Curtin University Research Data and Primary Materials Policy.

Timeline

Stage One

- November Year 1: Surveyed 30 year 7 students about science and their future.
- December Year 1: Selected sample of six students comprising five girls and one boy.
- December Year 1: Interviewed the sample of year 7 students and their parents.
- June Year 2: Interviewed the six students again about their experiences of year eight science.
- December Year 2: Interviewed original group again about attitudes to science, and career choices.
- June Year 3: Further interviews about attitudes to science, subject choices, career aspirations.

Stage Two

- November Year 2: Surveyed 70 year 7 students. Administered attitude survey to 60 students.
- December Year 2: Selected a sample of six students.
- December Year 2: Interviewed the sample of year 7 students and their parents.
- February Year 3: Lesson observations of first science lessons of selected students in year 8.
Interviews of students to ascertain their initial impressions of high school.
- March/April, Year 3: More lesson observations of year 8 students.
- April, Year 3: Interviews of observed students.
- June, Year 3: Final observations and interviews of students.
- July, Year 3: Interview non-observed students who attend other schools.
- August, Year 3: Administer attitude survey to interviewed students and their classes.
- May, - November, 1995: Data analysis.
- June, Year 3 - July, Year 4: Writing of thesis.

Note: Because the study is longitudinal, the early stages were completed while the candidate was enrolled in coursework.

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6.1. SAMPLE PROPOSAL SUMMARY TEMPLATE

The relevant information from Section 3 of this guide has been extracted and put into a sample template which you will find on the following pages.

Sample Template

This sample template has been formatted in a manner which is acceptable for a Research Proposal. The format, in its entirety, it is not prescriptive but it does contain elements which are requisite (i.e. the titles of the sections).

All margins should be standard (2.5cm) in minimum 11 point font.

- Summary length is:
 - **Doctoral** – maximum **ten** pages excluding references
 - **Master's** – maximum **five** pages excluding references.

Remember to remove all the greyed-out areas, including text boxes, before you submit.

Title

The title of the Master's / PhD research project should not be more than 20 words.

Abstract

The abstract is a summary of your study in very clear and plain writing. It should be no longer than half a page.

Objectives

In this section, the research problem is outlined. It must contain sufficient information to let the reader know what the study is about, and specifically what aspects your study will address.

You need to:

- briefly outline the purpose of the research;
- state the problem in general terms; and
- state the research question and any subsidiary questions, making it very clear what your research will be aiming to find out.

Refer to the [examples of research questions](#) in Section 2.2 of the guide: *The Research Topic: Where to Start?*

Background

This section contains a critical review of the literature you have found in the area. It must be related clearly to your problem. The references cited in the text must use style conventions approved by your school.

Some ideas for use in writing the review of literature include:

Overview/Introduction: Explain how the review is organised.

Topic Headings: Organise a critical review into topics associated with the problem.

Theoretical, Conceptual or Methodological Framework (if relevant): Express your research problem in terms of a framework derived from the literature.

Summary: Draw all of the main points together and describe what the review means for your study.

Significance

This section should say how your research adds to knowledge or makes an original contribution to knowledge. You should show:

- how the results from your research could be used to help the target population;
- why the results could be important for other people in your field and how they can be used; and

- how the results could be important for other researchers.

Research Method

This section should be sufficient detail to enable the reader to judge whether your study is likely to be successful.

The purpose of this section is to explain how and where you will carry out the data collection and analysis for your research. It gives reasons why you have chosen your sample and method of data collection. It gives detail about the data collection methods including why and how they will be used and the sites where the data collection will occur. You need to:

- briefly outline the research method;
- state where the research will be carried out;
- describe what sample will be used, or who the participants are likely to be;
- consider whether a contingency plan is required (particularly with studies relying on recruitment or sequential stages that are dependent on the previous stage).

Ethical Issues

In preparing your summary of proposed research for Master's and doctoral theses, a statement about your consideration of ethics is required in the body of the summary of the proposed research.

The statement must indicate that you are aware of, and have taken steps to account for, ethical issues relating to data collection and reporting in your research project.

Facilities and Resources

Outline the material and financial resources required for the completion of your study. Check with your supervisor about any special facilities and resources you may require from your school or centre for your particular study.

Data Storage

The Data Storage section of your summary requires you to provide details that confirm that your storage provisions meet the Curtin University [Research Data and Primary Materials Policy](#). You will need to complete a data management plan using Curtin University's Data Management Planning tool (<https://dmp.curtin.edu.au/>) and attaching it to your Application for Candidacy Form.

The online Planning tool will guide you through the process and has many examples that you can draw from (see the text box, below, for two examples. You may also find the associated [Library Guide](#) helpful.

Indicate in the text that you have done this process. For example, you could use the words:

“The data storage provisions are outlined in the attached Research Data Management Plan and meet the Curtin University Research Data and Primary Materials Policy.”

Time Line

In this section a timetable of when the major stages of your research will be completed needs to be included. The time schedule should be realistic.

Here is an example of a timeline:

Activity	Months from January 2016									
	3	6	9	12	15	18	21	24	27	30
Preliminary literature review										
Definition of the problem										
Preliminary numerical studies										
Review of preliminary work										
Numerical studies										
Construction experimental rig										
Collection of experimental data										
Data analysis										
Thesis preparation										

References

Every reference you cite in the proposal must be included in a list of references at the end of the proposal. Do not include any reference which was not explicitly cited in your proposal. The library provides access to referencing software as well as style guides and other information (<http://libguides.library.curtin.edu.au/referencing>).

There are many acceptable styles of referencing and decisions about referencing style should be made in consultation with your supervisors.

End of template

Documents required for this proposal

- Application for Candidacy form including Student Budget
- Candidacy Proposal
- Data management plan
- Turnitin originality/similarity report plus a response in relation to the results

Other attachments might include:

- Advertising/recruitment flyer
- Permission from developers of published questionnaires
- Copies of questionnaires
- Copy of agreements with research partners/institutions
- Copy of a separate agreement detailing the Ownership of Intellectual Property. *This will be when a contract dealing with ownership of intellectual property has been entered into with an external agency by the University and the student.*