Research Design Short Course

For Australia Development Scholarship in Vietnam Awardees Preparing for Study in Australia

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Course Developer

Dr David Annandale
International Academic Advisor

CONTENTS

1. COURSE INTRODUCTION AND OBJECTIVES

This short course has been designed to provide an introduction to research design and methods for PhD and Master's-by-Research (MbR) candidates who are preparing to leave Vietnam for study in Australia.

This is not a compulsory course. There is no assessment, and your candidature will not be affected if you decide not to undertake the course. However, in my work assisting research degree candidates in 2010, I found that lack of preparation for research was a major concern for those contemplating their Australian study. This observation was confirmed in our 2010 Monitoring and Evaluation Report, part of which focused on case studies of students already studying in Australia.

If you do decide to take this course, I estimate that it will take you about two-to-three weeks to complete, if you read for around one hour every day. You can decide just to undertake the readings, or you can use your learning to develop a draft research proposal, of the kind usually expected by Australian universities three-to-six months or so after you arrive.

It is important for you to note that the final structure and content of your research proposal needs to be decided upon in collaboration with your eventual University supervisor. This course is not intended to circumvent your supervisor's guidance. Its purpose is only to introduce you to the many different ways in which you can think about undertaking research.

This course focuses specifically on social science research methodology. This is because the vast majority of you will be undertaking social science research. However, the lessons contained in this course are equally relevant to those of you undertaking research in the "hard" sciences.

In this course you will be introduced to how to start thinking about research, and how to build a thesis with a rigorous approach to methodology and design.

2. COURSE DEVELOPER

This course was developed by the International Academic Advisor, Dr David Annandale. If you have any questions that arise as a consequence of undertaking this course, you may contact Dr Annandale at: david@kookemai.com.

3. WHY IS A FOCUS ON RESEARCH DESIGN IMPORTANT AT THIS EARLY STAGE?

I think I can most easily answer this question by telling you the "story" of my own progression towards a PhD. In fact, this whole short course is based on my own research design, and on how it developed. My hope is that by sharing this story, I can help you to avoid the early mistakes that I made ... and assist you to develop a strong research design that will set you up to produce a useful and satisfying research thesis.

So ... and in brief ... let me start from the beginning. I'd never been taught how to do research. Coming from a science background, there was a fairly clear "scientific method" that we were taught to apply in our undergraduate laboratory work. However, I quickly found that when I moved on to doing policy-related research work ... I had no idea how to approach social science research. Consequently, I waded around for possibly three years in my early PhD career ... not really understanding how to even focus my research topic. Then I had a bit of a revelation. I started to read some of the social science research methodology literature, and slowly a direction for my thesis research began to present itself. Now ... here is the important news for you! If I had read this material when I first started my PhD, I would have produced the thesis three years earlier! You do not have the luxury of taking six years to complete your degree. So ... the big lesson is ... if you take this short course seriously, and you grasp what it is about ... then you will undoubtedly save time, and most probably be less stressed during the process! In addition, you will undoubtedly be better prepared than most student who start PhDs, and you will be well set to move on to productive research careers.

4. COURSE OUTLINE

This short course consists of ten separate “units”. You should approach each one sequentially, and make sure that you do not miss any of them. Each unit consists of a brief introduction to a topic. Most units also offer a small number of readings, which are available as separate PDFs or Word files. You should attempt to get through as many readings as possible. You should also note that some of the literature referenced in the content of the Units is not available as PDFs. If you are interested, you should find this additional literature yourselves.

You should note that some of the readings will be challenging! This is PhD and MbR work that we are preparing for, and learning about research methodology is difficult. You will need to persevere and be patient!

The course will cover the following topics:

Unit 1: Introduction

Unit 2: Where does the issue of “research design” fit within a thesis?

Unit 3: Theory and conceptual framework

Unit 4: Methodology/research paradigm

Unit 5: Research strategy

Unit 6: Hypotheses

Unit 7: The place of theory

Unit 8: Units of analysis

Unit 9: Conclusion and common research design faults

Unit 10: Optional assignment: Developing a research proposal

5. COURSE UNITS

Unit 1: Introduction

Before we start to examine issues related to research design, it is worth spending a short amount of time discussing the more general issue of how to approach a PhD or MbR. Paying attention to the design of your research is crucial, but it is only one part of the overall "task". Other questions are perhaps more important at the beginning. For example, you might want to think about issues such as:

*what is a thesis and how do I get started?;

*what should my thesis contain?;

*how should I plan my argument and the thesis itself?;

*how do I get finished?; and,

*do I really want to do a PhD or Master's-by-Research?!

One way to focus your answers to these questions is to read some of the extensive and mostly popular literature that deals with "how to get a PhD". Two useful books that you might try to find are:

Phillips, E. And D. Pugh (2010), How to Get a PhD: a Handbook for Students and their Supervisors. Open University Press; 5th edition.

Gosling, P. and L. Noordam (2006), Mastering Your PhD: Survival and Success in the Doctoral Years and Beyond. Springer.

You might also find some good links to general tips for starting and finishing a PhD at: http://phdtips.com/. In addition, it is worth spending some time reading through a very good Powerpoint presentation on "how to get a PhD", developed by Dr Steve Easterbrook, who is a computer science professor at the University of Toronto. It is available at: http://www.cs.toronto.edu/~sme/presentations/thesiswriting.pdf, and you can find it filed as "easterbrookUoT.pdf" in the list of readings. Finally, you should read through and attempt to fill in the "research planning audit" contained in the reading by Clough and Nutbrown (2002).

Listed Readings (see PDF collection)

Easterbrook, S. (2004-2005), How Theses Get Written: Some Cool Tips (http://www.cs.toronto.edu/~sme/presentations/thesiswriting.pdf).

Clough, P. and C. Nutbrown (2002), 'Developing and Critiquing Research Plans', in A Student's Guide to Methodology: Justifying Enquiry. Sage: London, pp. 137-145. (look for the file called "clough&nutbrown_2002_Pt1").

Unit 2: Where does the Issue of Research Design Fit within a Thesis?

One of the main lessons of this unit is that designing research and understanding research methodology is difficult. It does not just happen by chance ... it requires conscious effort. Some students are so keen to dive in to the body of their research, they fail to consider how research should be done. If they focus on anything at all, it is likely to be on specific research methods, such as qualitative or quantitative tools. However, choosing specific research tools is only one small part of overall research design.

Thinking about how to design research has a large and involved literature. It is not just "common sense". Examiners of theses want to see that you understand the fundamentals of research design philosophy. In addition, social science has developed particularly elaborate thinking about design, because of its perceived need to justify itself vis a vis scientific research[1].

Arguably, you should be thinking about research design now, before you even leave for Australia. At this early stage, organising your thinking about research design is more important than the content of your proposed research. Eventually, you will want to write a chapter of the thesis that focuses on research design.

One of your listed readings for this unit is the Table of Contents for my own PhD thesis. You can see that I have placed the "Research Design and Methods" chapter immediately after the Introduction, with the latter merely setting the scene for the thesis as a whole.

Because I will draw on my own research design in what remains of this short course, I believe that it is worth briefly introducing you to my PhD. My research was situated in the "organisational behaviour" discipline (although it did take me a while to work out what discipline I was working within!). As such, I undertook my work in a Business School, and was focused on the different ways in which companies can respond to the implementation of environmental regulation. Some companies respond in a hostile or reactive manner, and others appear to be less hostile and more interested in 'leading' or helping to develop regulation.

Two questions are implicit in this observation. The first relates to how companies approach environmental regulation, i.e. are they reactive, proactive, or somewhere in between? Secondly, once it is known how companies react or respond, is it possible to find out *why* they respond the way they do?

The main goal of my research was to address this second question, and to develop an understanding of what determines the way companies respond to environmental regulation. To obtain a vantage point from which to properly investigate the research question, the thesis used the technique of cross-national

[1] Any research that you might want to undertake that involves policy, or people, or social data is defined as "social science research".

comparison. At its core, the research consisted of a comparative analysis of the determinants of mining company responses to environmental regulation in Australia and Canada.

To finish this unit, you should briefly examine the readings listed below.

Listed Readings (see PDF collection)

Annandale, D. (2000), PhD Table of Contents (see file named “annandaleToC”)

Evans, D. and P. Gruba (2002), ‘The Chapter on Design of Your Own Work’: in How *to Write a Better Thesis*, 2nd Edition, Melbourne University Press, pp83-102. (look for the file called, “EvansGruba_2002”).

Unit 3: Theory and Conceptual Framework

A significant problem in contemporary research is the uncertain and confused use of a variety of basic concept terms. One of the main aims of Unit 3 through Unit 8 is to define commonly used concept terms so that consistency is maintained throughout your thesis.

Unit 3 through to Unit 8 will define the terms “theory”, “conceptual framework”, “methodology/research paradigm”, “hypothesis”, and “method”. To provide you with some practical examples, I will show you how I applied these concepts in my own PhD thesis.

Researchers define theory in different ways, depending on their overall philosophical alignment. Most would agree that theories can be considered as providing a set of explanatory concepts which are essential in defining a research problem.

Other writers define theories in terms of their breadth and scope. Some group theories in a hierarchy from grand theories (which explain large categories of phenomena), middle-range theories (which fall somewhere between grand theories and everyday working hypotheses), and substantive theories, which deal with small-scale, specific settings. In the same vein, Glesne and Peshkin (1992, pp.20-21) identify five “types” of theory: grounded theory; empirical generalisations; causal or theoretical models; middle-range proposition; and, conceptual frameworks.

The Glesne and Peshkin typology is important because it defines the term “conceptual framework” as a type of theory. They go on to further define conceptual frameworks as informing the methodological and substantive aspects of research (Glesne and Peshkin, p.21). This definition is elaborated upon by Miles and Huberman (1994, p.18) who define a conceptual framework as explaining, “... either graphically or in narrative form, the main things to be studied - the key factors, constructs or variables - and the presumed relationships among them”.

After having read this literature, I decided to treat the terms “theory” and “conceptual framework” as being on the same hierarchical level in relation to other concept terms which will be defined in the units that follow. For the purpose of my thesis a conceptual framework was defined as being a structural guide to thinking, research and organization. Theories, as sets of explanatory concepts, were considered as operating within the structure of a conceptual framework.

Figure 1 presents the conceptual framework that I used to guide my own research. This became the “organising structure” for the research. I’ll explain certain aspects of it as we move through the Units. For now you should note that it basically reads from the right, to the left.

A crucial aspect of the framework ... and a central organising device for the research ... is the “research question”. In my view it is extremely important that

you be able to develop a single question that guides the research. You should be able to write such a question in one sentence, and when you have answered it ... you have finished the research! The majority of PhD students cannot present a single research question in the early stages of their work. If asked, they tend to outline a list of objectives or, at best, a number of different questions. One of the secrets of successful and efficient research is to be able to determine the one question that you want to answer. This is why we ask for this in the ASDiV PhD application form.

As you move to the left in the conceptual framework diagram, you will see two sub-questions. There may well be a number of relevant sub-questions in a given circumstance. Developing sub-questions helps to narrow down the research, and moves us closer to understanding how to undertake it. I will address other aspects of the conceptual framework in upcoming Units.

Listed Readings (see PDF collection)

Cresswell, J.W. (1994), 'Questions, Objectives, and Hypotheses', in: Research Design: Qualitative and Quantitative Approaches, Sage, London, pp69-78. (look for the file called, "Cresswell 1994_Pt2").

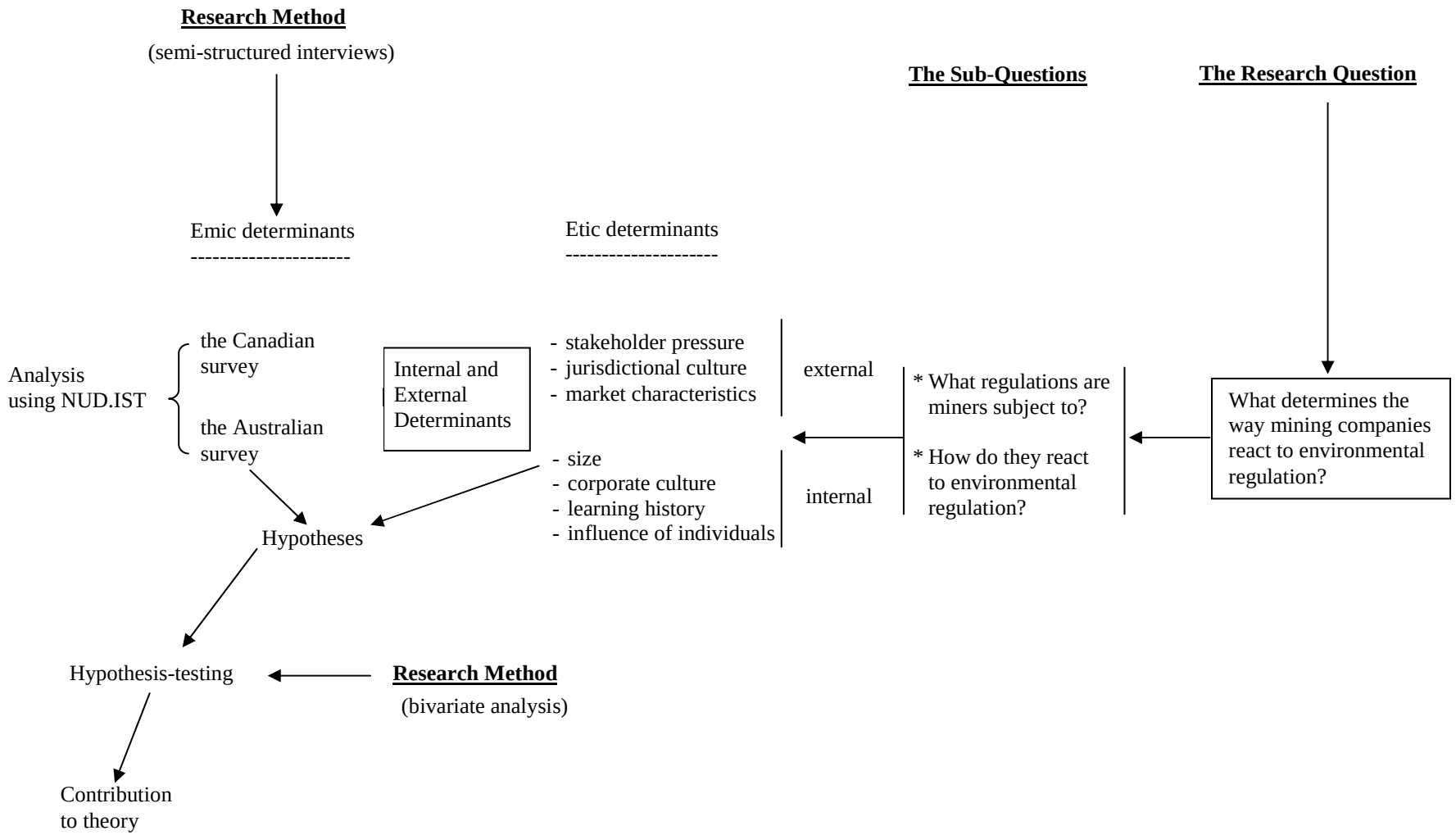

Figure 1: Guiding Conceptual Framework

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Unit 4: Methodology/Research Paradigm

There is often confusion amongst researchers about the meanings of the terms "methodology" and "method". The term "methodology" is usually defined to mean a general approach to studying the research topic, and is used synonymously with the term "research paradigm". "Methods", however, are usually defined as being specific research techniques such as observation, interviewing and statistical testing. As will be shown in a later Unit, methods need to be chosen so as to fit with the theories and methodologies being used.

A methodology or research paradigm establishes how one will go about studying a phenomenon. Examples of methodologies include positivism (which seeks to verify hypotheses as facts often using quantitative methods) and constructivism (where "reality" is locally constructed, hypotheses are induced from field research, and methods tend to be qualitative).

In the past, when asked about their chosen paradigm, researchers would generally respond by siting themselves in either the "quantitative" or "qualitative" camps. Since Denzin and Lincoln's (1994) influential text, however, the terms quantitative and qualitative have tended to be subsumed under the umbrella of the paradigm concept, the idea being that both quantitative and qualitative methods may be used appropriately with any research paradigm.

The importance of paradigm issues is crucial. Guba and Lincoln (in Denzin and Lincoln 1994, p.116) state that: "... no inquirer, we maintain, ought to go about the business of inquiry without being clear about just what paradigm informs and guides his or her approach".

Guba and Lincoln define four alternative inquiry paradigms (positivist, post-positivist, critical theory and constructivism). This typological device is now well known, and I therefore used it in my own thesis to define the paradigm(s) within which the research would be undertaken.

Table 1 is derived from Guba and Lincoln (1994, p.109) and defines each research paradigm according to how proponents of each would respond to three fundamental questions notably; ontological (what is the form and nature of reality?); epistemological (what is the relationship between the knower and what can be known); and, methodological (how can the inquirer go about finding out whatever he or she believes can be known).

Table 1: Basic Beliefs of Alternative Inquiry Paradigms

Item	Positivism	Post-positivism	Critical Theory	Constructivism
Ontology	naive realism - "real" reality but apprehendable	critical realism - "real" reality but only imperfectly and probabilistically apprehendable	historical realism - virtual reality shaped by social, political, cultural, economic, ethnic and gender values; crystallized over time	relativism - local and specific constructed realities
Epistemology	dualist/objectivist; findings true	modified dualist/objectivist; critical tradition; findings probably true	transactional or subjectivist; value-mediated findings	Transactional or subjectivist; created findings
Methodology ("Method" as defined in this thesis)	experimental or manipulative; verification of hypotheses; chiefly quantitative methods;	Modified experimental or manipulative; critical multiplism; falsification of hypotheses; may include qualitative methods	dialogic or dialectical	hermeneutical or dialectical

Source: Adapted from Guba and Lincoln (1994)

Table 1 suggests that there is a continuum of research paradigms, from positivist (often considered to be the dominant research "tradition") to constructivist. The philosophical basis of my own research leant towards the positivist end of the continuum, and it most closely matches the post-positivist paradigm. It needs to be understood that structuring of the research is a free choice which is influenced by the experience and values of the researcher ... and perhaps the supervisor! There is no such thing as a "correct" research paradigm!

In my own thesis, I rejected positivism as a valid paradigm for social science research. Criticisms of positivist social science research are numerous and well chronicled and do not need to be summarised here. Nonetheless, I want to make it clear that the main concern that I had with the positivist paradigm was methodological. There is quite clearly much disquiet surrounding the use of experimental, quantitative methods in social science which attempt to verify hypotheses.

Evidence of the post-positivist nature of my research project is displayed in the conceptual framework of Figure 1.

For example, looking at the proposed "methods" for the research, the project develops both "etic" determinants (ie causes of responses originating from the literature and the researcher), and "emic" determinants (ie causes of responses to environmental regulation which are provided by industry participants). The use of emic determinants suggests that, from an ontological and epistemological point of view, there may be multiple conceptions of reality, and that the knower

(the industry participant) and the known are interdependent. A purely positivist paradigm would look only at etic determinants and would approach the research as deductive hypothesis testing, based on etic determinants alone.

The post-positivist nature of my PhD research was also defined by: how the project treated the concepts of research strategy (ie was the research "exploratory", "descriptive", or "explanatory"); the role that hypotheses and specific research methods took; the place of theory; and, the units of analysis. These issues are dealt with in upcoming Units.

Listed Readings (see PDF collection)

Cresswell, J.W. (1994), 'Questions, Objectives, and Hypotheses', in: Research Design: Qualitative and Quantitative Approaches, Sage, London, pp69-78. (look for the file called, "Cresswell 1994_Pt1").

Frost, N., et al (2010), 'Pluralism in qualitative research: the impact of different researchers and qualitative approaches on the analysis of qualitative data', *Qualitative Research*, vol. 10(4), pp441–460 (look for the file called, "bondpluralism").

Unit 5: Research Strategy

One method used in the literature to characterise research is to define it in terms of its proposed objectives. In general, it is considered that there are three possible research objectives: exploration, description, and explanation.

Exploratory studies typically focus on "what" questions and traditionally seek to either satisfy the researcher's desire for better understanding, and/or to provide hypotheses and a springboard for further study.

Descriptive investigations present a description of a phenomenon within its context, where the researcher observes and then describes his or her observations. A good example of descriptive research is market surveying or polling. Finally, explanatory research attempts to ask "why" questions. Its purpose is to go beyond exploration and description to examine cause-effect relationships.

There is a link between the paradigmatic conceptions of social science and the purposes of research as just introduced. For example, those who ascribe to the positivist/constructivist dichotomy would probably agree that positivist research has more of an explanatory tendency than does constructivist research, which tends to focus more on "understanding" than explanation.

The reason for making this point is to further reinforce the idea introduced in the conceptual framework (Figure 1) that it is possible for research to be neither positivist nor constructivist, but to sit somewhere between the two. While the initial research question in Figure 1 is an exploratory one (ie "*what* determines the way mining companies respond to environmental regulation?"), it aims to extend, beyond the answer to this question, to examine *why* companies respond the way they do. For example, one might assume that the initial research question could result in a large number of different answers. This would be a good example of exploratory research. If, however, the initial question were to be used as a "stepping-off" point, the research could extend to look more closely at the most important determinants of response and then to examine why these important responses occur.

Figure 1 indicates that the thesis used an exploratory strategy in developing the list of emic determinants by way of interviews. The interviews were then analysed using qualitative analysis software known as NUD.IST. This software allows for coding the original data, and for preliminary theorising. At this point the research moves on to "test" these determinants to develop explanation. The idea of "hypothesis-testing" is discussed in the next Unit.

Listed Readings (see PDF collection)

Neuman, W.L. (2000), 'Qualitative and Quantitative Research Designs', in: *Social Science Research Methods: Qualitative and Quantitative Approaches*, 4th Edition, Allyn and Bacon, Boston, pp121-155. (look for the file called, "Neuman_2000").

Unit 6: Hypotheses

The term "hypothesis" is generally defined to mean a proposition or statement which is testable. The view is taken that hypotheses are "expectations about the nature of things derived from a theory" (Babbie 1975, p.495). As a consequence, hypothesis-testing is something that is done as part of deductive research.

It is quite acceptable for theses to consist of a mixture of deductive and inductive elements. They can therefore consist of both hypothesis generation (the inductive component) and hypothesis-testing (the deductive component). This was the case with my own thesis, and the conceptual framework presented as Figure 1 makes this idea clearer. It shows, for example, that hypotheses were derived from interviews and discussions with "knowers" (mining industry representatives). This was an inductive and exploratory approach. Once this point was reached, however, the research took on a more positivist perspective when the hypotheses gleaned from exploratory work were tested using traditional positivist methods. In this case the research used standard bivariate statistical techniques contained within the Minitab software programme.

One common fault that shows itself in PhD students' work, is the tendency to present hypotheses too early in the thesis, without having led the reader to understand why the presented hypothesis exists. Hypotheses cannot just arise "from thin air". They need to be justified or generated, either through thorough literature review, or initial inductive research.

Listed Readings (see PDF collection)

Grogan, P. (2005), 'The Use of Hypotheses in Ecology', *Bulletin of the British Ecological Society*, 36(1), pp43-47. (look for the file called, "Grogan_2005").

Unit 7: The Place of Theory

So far, I hope I've shown that the choice of research paradigm strongly influences, or even perhaps constrains, the choice of research strategy, the role of hypotheses and the research methods used. Figure 2 shows how these important elements of research design fitted together in a hierarchical sense in my own thesis.

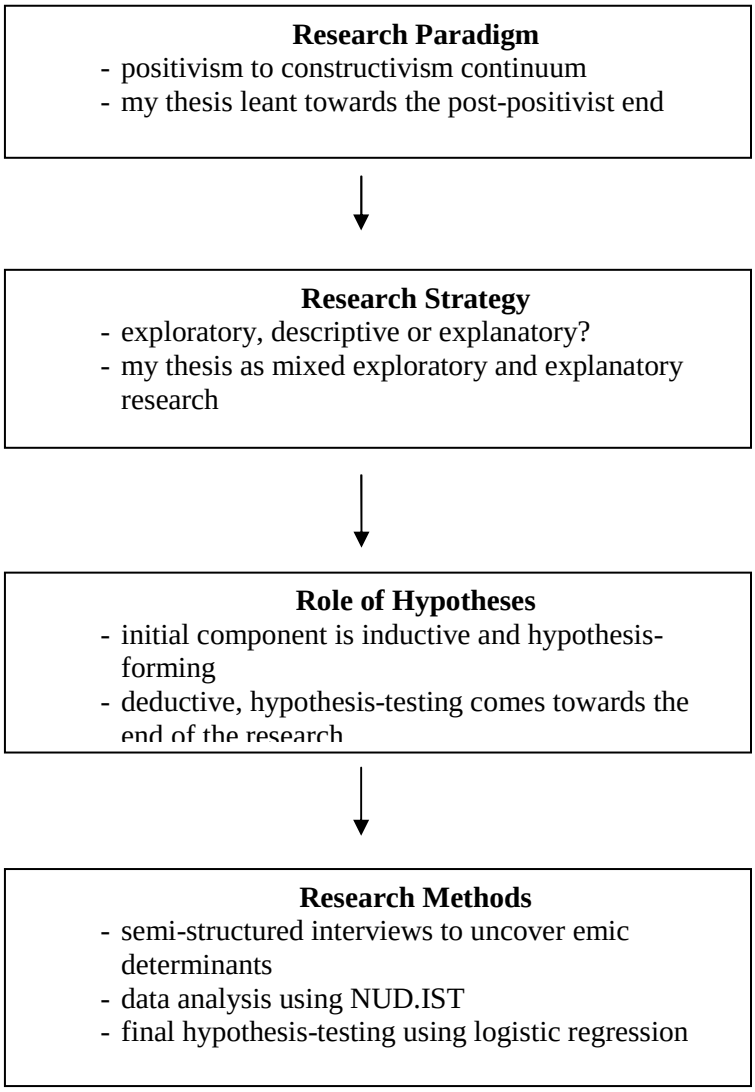

Figure 2: Research Design Hierarchy

The choice of research paradigm also influences the role of theory in a study. For example, positivist researchers use theory deductively, and place it toward the beginning of a plan of study. The objective is to test or verify a theory. The deductive model used in positivist research tests theories by using hypotheses derived from the theory. In turn, these hypotheses contain variables which can be formally linked (this is the concept of independent, mediating and dependent variables).

The place or role of theory in non-positivist research is less clear. Generally speaking, research paradigms which are more towards the constructivist end of

the continuum tend to view theory as emanating from the data collected during the course of research. An example of this idea can be found in a definition for "grounded theory" (considered to be a constructivist approach) where researchers "... hope to discover a theory that is grounded in information from informants" (Cresswell 1994, p.93). This idea of not beginning with a theory to test is consistent with the inductive model of thinking.

Theory played two different roles in my research. As Figure 1 indicates, part of the research strategy involved collecting information from informants (executives in Canadian and Australian mining firms). This activity led to a range of emic (ie informant-derived) determinants of company reaction to environmental regulation. Another part involved the elucidation of etic determinants (ie determinants brought to the research by the researcher). The combination of these two approaches led to a set of hypotheses which addressed the research question. This aspect of the research was inductive. At that point, I had a theory (or set of theories) that were testable using statistical procedures, and so the thesis became deductive, hypothesis-testing research. Figure 1 makes this clear.

Listed Readings (see PDF collection)

Crotty, M. (1998), 'Introduction: the Research Process', in: *The Foundations of Social Research: Meaning and Perspective in the Research Process*, Allen and Unwin, New South Wales, pp1-17. (look for the file called, "Crotty_1998").

Unit 8: Units of Analysis

Defining the "unit of analysis" is an important aspect of research design. Clear specification of units of analysis makes for a narrowing of focus, which is often crucial in developing discrete and manageable thesis research.

The best way to define a unit of analysis is to relate it to the original research question. In my PhD, the research question focused on the responses and behaviours of organizations. It would therefore seem sensible to define organizations as the units of analysis for this research. One problem associated with this definition, however, is how to measure responses at the level of the firm.

Over time, two somewhat opposed approaches to dealing with this problem have emerged. The first approach, favoured by constructivist researchers, assumes that organizational behaviour should be measured by analyzing the perceptions of company representatives. With these so-called 'perceptual' measures, the point is not to assume that there are necessarily 'objective' or 'accurate' measures of company responses to environmental regulation, but rather to elicit the perceptions of senior managers, which are then taken as being the company's perspective.

The second approach to measurement of organizational behaviour is steeped in the idea that there is something 'inferior' about measuring perceptions, and that 'real/accurate' research must either use objective measurement (also known as 'archival measurement') or some mixed perceptual/objective technique to prove accuracy. Archival measurement is based on defining objectively measurable indicators that are meant to represent 'reality'. An example might be to define a 'proactive' company as having its own internal environmental bureaucracy, and corporate environmental reporting process. Evidence for this objective measure could be found in annual reports of companies. This 'archival/objective' approach tends to be associated with positivist research.

The choice of which approach to take in relation to measuring organizational behaviour clearly depends on the paradigm chosen to guide the research, but given that my research aimed to situate itself somewhere between the two poles of positivism and constructivism, the choice was not necessarily straightforward.

The choice is made even more difficult because of uncertainty amongst positivist researchers as to the relative value of perceptual and archival/objective measurement.

The literature makes it clear that there is uncertainty about the correlation between archival and perceptual measurement (Boyd et al 1993). Some studies have reported negative correlations (Starbuck & Mezias 1996), while others have reported moderate (Keats & Hitt 1988) to strong (Snyder & Glueck 1982) positive correlations. Other writers have argued that how managers perceive the environment is more critical to organizational strategy than is archival measurement of the environment (Hambrick & Snow 1977; Miller, 1988). This

idea has been extended by Hambrick and Mason (1984), who argue that organizational outcomes can be viewed as reflections of the values and cognitive bases of coalitions of top managers. It has also been suggested that perceptual measures are more appropriate than archival measures when individuals are the unit of analysis, when research interest is focused on relatively recent events, and where the focus is on firm actions rather than firm outcomes (Boyd et al 1993).

For all of these reasons, and because the research borrows from the constructivist research paradigm as well as the positivist paradigm, my study measured organizational behaviour by analysing the perceptions of senior managers in mining firms.

This meant that the 'unit of analysis' for the research was individual managers, providing information that allows conclusions to be made about the behaviour of their companies.

<u>Listed Readings (see PDF collection)</u>

Frankfort-Nachmias, C., and D. Nachmias (1992), 'Sampling and Sample Designs', in: Research Methods in the Social Sciences, 4th Edition, St Martin's Press, NYC, pp169-191. (look for the file called, "Frankfort-NachmiasN_1992").

Unit 9: Conclusion and Common Research Design Faults

In summary, and as you think about the design of your own research, I believe that the following points are most important:

* "research paradigms" should be thought of as a continuum, where the chosen paradigm determines the research methods used.
* the "qualitative/quantitative" split is now subsumed within the umbrella of the paradigm concept, the idea being that both quantitative and qualitative methods may be used appropriately with any research paradigm.
* positivist research tends to use experimental/verification of hypotheses methods … constructivist research uses interpretation approaches.
* research can be exploratory ('what' questions ... with focus more on understanding than explanation), descriptive, or explanatory ('why' questions, and cause-effect relationships).
* explanatory research tends to link more with positivist research.
* positivist research tends to be deductive, where exisiting theories are tested using quantitative (statistical) methods. Constructivist research tends to be inductive and can be hypothesis-forming (ie it is possible to approach constructivist research with relatively unformed ideas about hypotheses).

To finish, I think it is worth pointing to a few common research design faults that I have come across during my years as a PhD supervisor. There are five faults that I would like to briefly outline.

1. Lack of clarity with respect to the role of literature review

Students are often unclear about the role of literature review in research. Some see it as "something that needs to be done for the sake of it". I see it as having a very defined purpose. The role of literature review depends on the chosen research paradigm but always discusses theory, and so leads on to hypotheses. In addition, it should lead directly to questions that can be asked to test hypotheses in research that uses questionnaire methods.

2. Role and position of hypotheses

Students sometimes present hypotheses at the start of a thesis, without any explanation as to where they originated from. You should remember that hypotheses are propositions or statements that are testable. Therefore, they must be placed after theory discussion (literature review) in a thesis.

3. Link between research paradigm, research strategy, and specific methods

I hope that I have made it clear how important it is to think through the hierarchical link from research paradigm, through to research strategy, and then on to hypotheses and methods. Most PhD students fail to make this linkage. If you can think this through carefully, you will be ahead of most students, and you will have a solid grounding for your research.

4. Process versus content

I've mentioned earlier that eager research students have a tendency to focus almost entirely on the content of their research. This is understandable! We want to "get on with the job", and find the answer to our research question. However, you should not forsake process for content. At least in the early stages, research process is just as important as content. Remember to take a look at the "how to do a thesis" books and other references. They will reinforce this message.

5. Failure to spend time thinking about setting up the research

To extend the above point a little bit further ... students often fail to spend enough time thinking about setting up the research. One simple technique for maintaining your focus on research design is to write an overall guiding research question early on. In fact, you should have done this when you filled out the ASDiV application form. There is no problem with changing this question as time goes by. In fact, it would be unusual if you did not find the need to revise it. In my experience, it helps if you can write the question clearly, and in one sentence. In addition, you should embed a "problem" in the research question. Once you solve the problem ... during the course of the research ... then you have completed the thesis!

Listed Readings (see PDF collection)

Cresswell, J.W. (1994), 'Questions, Objectives, and Hypotheses', in: Research Design: Qualitative and Quantitative Approaches, Sage, London, pp69-78. (look for the file called, "Cresswell 1994_Pt2").

Unit 10: Optional Assignment: Developing a Research Proposal

Most universities require research degree students to present a detailed "research proposal" sometime soon after arrival. For PhDs, this will often by either 3 months or 6 months after arrival in Australia. The research proposal will be the first significant piece of work that you produce. It will be formally reviewed, usually by some kind of university "research committee". Often these committees will recommend changes to your proposed research and, in some cases, may actually reject your proposal and ask for it to be resubmitted.

You can use what you have learned in this short course to help with the design of your research proposal. Although your Australian supervisor will likely want to have a significant input to your proposal, you may well want to start on a first draft before you leave Vietnam.

Research design will be a required part of your research proposal. For general guidance, you may wish to look at the proposal examples presented in the readings from University of New England, and University of Wollongong (see below).

Listed Readings (see PDF collection)

Punch, K.F. (2000), 'The Proposal – Readers, Expectations and Functions', in: Developing Effective Research Proposals, Sage, London, pp10-20. (look for the file called, "Punch_2000").

University of New England (undated), 'Guidelines for Students Submitting their PhD Proposals', (look for the file called, "examples-phd-proposals-UNE").

University of Wollongong (undated), Research and Thesis Writing: Developing a Proposal (look for the file called, "Wollongong").

6. REFERENCES (NOT PROVIDED AS PDFS)

Babbie, E. 1975, *The Practice of Social Research*, Wadsworth Publishing, Belmot, California.

Boyd, B.K., Dess, G.G. & Rasheed, A.M.A. 1993, 'Divergence between archival and perceptual measures the environment: Causes and consequences', *Academy of Management Review*, vol.18, no.2, pp.204-226.

Creswell, J. 1994, *Research Design: Quantitative and Qualitative Approaches*, Sage Publications Inc., Thousand Oaks, California.

Denzin, N. & Lincoln, Y. (eds.) 1994, *Handbook of Qualitative Research*, Sage Publications Inc., Thousand Oaks, California.

Glesne, C. and A. Peshkin 1992, *Becoming Qualitative Researchers*, Longman, White Plains, New York.

Guba, E. & Lincoln, Y. 1994, 'Competing paradigms in qualitative research', in *Handbook of Qualitative Research*, ed. N. Denzin, & Y. Lincoln, Sage Publications Inc., Thousand Oaks, California

Hambrick, D.C. & Mason, P.A. 1984, 'Upper echelons: The organization as a reflection of its top managers', *Academy of Management Review* 9: 193-206.

Hambrick, D.C. & Snow, C.C. 1977, 'A contextual model of strategic decision-making in organizations', *Academy of Management Proceedings*, pp,108-112.

Keats, B. & Hitt, M. 1988, 'A causal model of linkages among environmental dimensions, macro organizational characteristics, and performance', *Academy of Management Journal*, vol.31, pp.570-598.

Miles, M.B. & Huberman, A.M. 1994, *Qualitative Data Analysis: An Expanded Sourcebook* 2nd ed., Sage, Newbury Park, CA.

Miller, D. 1988, 'Relating Porter's business strategies to environment and structure', *Academy of Management Journal*, vol.31, pp.280-308.

Snyder, N.H. & Glueck, W.F. 1982, 'Can environmental volatility be measured objectively?' *Academy of Management Journal*, vol.25, pp.185-192.

Starbuck, W.H. & Mezias, J.M. 1996, 'Opening Pandora's box: Studying the accuracy of managers' perceptions', *Journal of Organizational Behavior*, vol.17, pp.99-117.