

Multiple theoretical perspectives in the long thesis PhD: A foundation problem in PhD education



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***Abstract:** Recent research has exposed weaknesses in many of the conceptual foundations of PhD education processes as currently implemented. This paper focuses on the use of multiple theoretical perspectives in PhD research projects using the long thesis model of PhD study. The paper describes the epistemological factors impacting on the coherent inclusion of multiple theoretical perspectives necessary for undertaking multi, cross and inter-disciplinary PhD research projects and research involving triangulation of data sources. It uses as a background the five-chapter thesis-writing model of Dr. Chad Perry, widely accepted as an effective basis for writing successful PhD long theses that address the major concerns reported by examiners. The paper concludes with suggestions for modifications to Perry's five chapter PhD thesis model to include multiple theoretical perspectives and to extend its use for PhD candidates and researchers working in complex theoretical scenarios involving multiple disciplines and/or domains.*

***Keywords:** PhD education, Multiple Theoretical Perspectives, Long Thesis*

Introduction

Recently, concerns about core aspects of PhD education are emerging as PhD education processes come under increasing scrutiny worldwide (see, for example, Chen, Holbrook, & Absalom, 2001; Deem, 1998; ESRC, 2001, 2001; Tellefsen & Love, In Press; Thorne, 1999; Zhao, 2001). These concerns are significant because of the historical role of the PhD as a universal upper-level standard of certification of research competence across disciplines, cultures and national boundaries (Catholic Encyclopedia, 2001). The problems that have been identified indicate a neglect of epistemic foundations of PhD education in the areas of research process, knowledge building, knowledge dissemination, research training, and the role of evidence in the assessment of research competence. They include:

- Significant proportions of candidatures (over 50% in some disciplines) with serious time overruns, poor completion, and major changes to research focus (Kemp, 1999; Newhouse, 1999; J. D. Nyquist & Woodford, 2001).
- Lack of clarity about the characteristics of evidence that indicate satisfactory achievement of the performance indicators of doctoral performance (see, for example, Deem, 1998).
- Lack of consistency across disciplines (Council for Science and Technology, 2001).

- Extensive lack of understanding and agreement by PhD examiners about what is assessed and to what standard (Bourke, Scevak, & Cantwell, 2001).
- Confusion across all fields about the core characteristics of PhD's (see, for example, extensive international discussions on doctoral education on PhD-design list at www.jiscmail.ac.uk and (Tellefsen & Love, In Press)).
- Lack of explicit understanding of key aspects of PhD supervision (Chen et al., 2001; Zhao, 2001).
- Failure of PhD education to produce graduates with expected levels of research skills (ESRC, 2001, 2001).
- Lack of parity of standards (Thorne, 1999).

This paper addresses one aspect of this general problem: the role of multiple theoretical perspectives in the long thesis PhD. The issue is important because the use of multiple theoretical perspectives is a key aspect of cross/multi/ and inter-disciplinary research projects, especially where they involve triangulation of data analyses; and the long thesis PhD is the main means of assessing competence for the award of Doctor of Philosophy in most disciplines in English-speaking countries outside the US (Biggs, 2000; J. Nyquist, 2000; E. M. Phillips & Pugh, 1992). (In long thesis PhD study, the candidate's main work is to develop a unique and significant contribution to knowledge by undertaking a substantial research project (under supervision) in which a long thesis, usually of between 70,000 and 150,000 words, is used to describe their analyses and research processes such that a competent researcher can replicate their research and corroborate the data, analyses, and theoretical conclusions (Biggs, 2000; E. M. Phillips & Pugh, 1992; West & Rubinstein, 1986).)

The creation of the long thesis submission is widely regarded as one of the most difficult aspects of PhD research (Perry, 1998; E. M. Phillips & Pugh, 1992). These problems have resulted in Perry's (1998) five-chapter model of thesis writing becoming widely established as a standard method for producing successful long theses that satisfy examiners (See, for example, Academy of Marketing, 2000; Kerlin, 1999; Literati Club, 2000). A practical focus of this paper is to improve Perry's model to adequately include multiple theoretical perspectives, to provide support for PhD candidates to provide fuller descriptions of the theoretical and methodological foundations of their research.

Theoretical Perspective(s) and PhD Research

A research project and its conclusions are defined by the particular combination of theoretical and practical factors that shape them because they are founded on researchers' 'worldviews', human values, theories, and data gathering methods (Flood, 1990; Franz, 1994; Popper, 1976; Reich, 1994). In terms of researchers as individuals, research processes and outcomes depend on researchers' subjective human cognito-affective processes interacting with the assumptions that underpin their use of theories and data gathering methods and techniques. Together these factors and processes span all of Popper's three 'worlds' (subjective, theory and external) and divide into seven aspects:

1. **Ontological perspective(s)** - consisting of the assumptions, beliefs and collection of human values that together form a researcher's view of what existence and reality are. In Reich's (1994) terms, this is the researcher's 'world view'.
2. **Epistemological perspective(s)** - define how a researcher's ontological perspective(s) on existence/reality relates to theory for each analysis and theoretical proposal.
3. **Theories** - the theories that support, and are utilised in, a researcher's analyses, research practices and conclusions.

4. **Methodological perspective(s)** - provide the assumptions that guide a researcher's choices for research methodologies, and the connections between these methodologies and the theoretical details of the research. Methodological perspectives are the interface between the underlying theory, and the research methodology(ies), methods and the techniques that the researcher uses in the objective world.
5. **Research methodology(ies)** - guides the researcher's choices for research methods and techniques.
6. **Research methods** - coherent processes of data gathering and analysis techniques.
7. **Data-gathering and analysis techniques** - the basic practical elements of research.

The theoretical perspective(s) used in PhD research consist of the abstract and theoretical factors that shape the sundry decisions that determine each researchers' choice of analyses, background material, theories and research techniques (Lindsay, 1995; Sharrock & Anderson, 1986; Shipman, 1981). Thus, theoretical perspective(s) comprise sections 1-5 in the model above. The practical aspects of the data collection methods are found in sections 6 and 7.

A theoretical perspective consists of a single conceptual position that connects specific choices at each of sections 1-5. Axiomatically, a theoretical perspective must contain a single conceptual position, unique in detail, from every section in the range 1-5 above, and these conceptual positions at each section must be epistemologically coherent and not contradictory. This means that choices in each of the above sections are not fully independent of each other. For example, decisions made about the details of ontological perspective limit choices for epistemological perspectives and of other factors – and vice versa. The decisions a candidate makes about the elements of their theoretical perspective(s) bound their available choices for data gathering methods and techniques. For example, the choice of elements of theoretical perspective needed for a specific analysis places limits on, and may even uniquely define, a candidate's choice of data collection methods and techniques. In reverse fashion, a candidate's preference for a particular data collection method implies, and depends on, appropriate choices having been made about the specific details in sections 1-5. From this viewpoint, the specific theoretical perspective(s) used in a research project are drawn from a broad multi-dimensioned continuum of theoretical perspectives in which each is subtly distinguished from the others by the exact details of their properties of sections 1 to 5 of the above model. Traditional research perspectives (e.g. positivist, interpretive, constructivist, constructionist) are coherent collections of theoretical perspectives drawn from this continuum. In addition to the different theoretical perspectives explicit or implicit in specific analyses, research questions and data gathering methods is the single over-arching theoretical perspective that is the overall stance taken in addressing the research *problem*. Without this, the work in addressing research questions, analyses and data collection is not brought into a coherent whole. In almost all cases, the main characteristic of the overarching theoretical perspective contains a strong element of critical analysis alongside other ontological and epistemological positions that depend on the research problem being addressed and the researcher's individual outlook. This overarching theoretical perspective has a hierarchical relationship with the other theoretical perspectives.

Theoretical perspectives are an essential aspect of PhD research planning, research, and thesis writing. Theoretical perspectives guide each PhD candidate, consciously or unconsciously, in the development of their research and thesis. PhD candidates' exposition of their theoretical perspective(s) enables readers and examiners to examine their arguments to reach the same conclusions (E. M. Phillips & Pugh, 1992). The explication of the theoretical perspective(s) that have been used in a research project is also necessary to enable peer researchers to

replicate their research so as to strengthen confidence in the conclusions that have been drawn (Stegmüller, 1976).

In many research areas, research is intrinsically multi, cross, or inter-disciplinary and involves both qualitative and quantitative analyses in which researchers are required to address human subjective considerations alongside the physical properties of objects. Increased government emphasis on innovation and the social and economic benefits of research is likely to increase the incidence of these types of research projects. The combination of qualitative and quantitative research foci requires multiple theoretical perspectives, especially when it involves addressing theoretically different aspects of a research problem. For example, researching the designing of (say) a new communications device may involve research processes relating to interpersonal collaboration, individual cognition, socio-cultural forces, technical and economic issues - each of which may be viewed from a variety of theoretical perspectives. This requires the PhD candidate to choose theoretical perspectives appropriate to the specific aspects of the research problem they are addressing. In many cases, it may also be advantageous for the candidate to gather data via different methods for triangulation purposes. For example, the collaborative arrangements for designing a communication device might be explored by triangulating quantitative behavioural and informatic data about human collaborative activities with qualitative data drawn from semi-structured interviews with designers. Each of these data collection methods is associated with specific subtly different variants of theoretical perspective, and must be described along with the other theoretical perspectives used in the research.

The overall validity of each PhD candidate's research thesis depends to a large extent on the candidate maintaining a personal single over-arching theoretical perspective throughout their research and thesis writing whilst also using other theoretical perspectives for specific aspects of their analyses and data gathering. Regardless of how these multiple theoretical perspectives are arranged in a candidate's research, their description and justification form an essential aspect of describing the candidate's analyses, data gathering, and their derivation of research conclusions. In the absence of such a discussion, a PhD candidate's 'thesis' remains without adequate epistemological foundations.

In some cases, a singular theoretical perspective may be sufficient for candidates whose research lies wholly within a natural science paradigm (Lindsay, 1995). This is especially likely where a candidate's research problem, data and analyses all lie in a contiguous mathematically-mappable continuum and do not involve any of the human or subjective considerations that are explicitly excluded by the natural science research paradigm (Crane, 1989).

The natural sciences' research perspective was once viewed as the *only* basis for research: a position now widely discredited (see, for example, Crane, 1989; D. C. Phillips, 1990; Popper, 1976). An unhelpful legacy of that time, however, is found in some PhD thesis writing guidebooks in which epistemology and research methodology are conflated, and in which it is assumed that a single epistemology/ research methodology is generally sufficient. This single perspective/ methodology position has two main weaknesses:

- The theoretical foundations of post-positivist research that involves human values and subjective considerations extend beyond what is encompassed under 'epistemology' or 'research methodology'.

- Most PhD-level research involves more than one theoretical perspective, especially for candidates who utilise two or more approaches to data collection to ‘triangulate’ their research.

PhD candidates who inappropriately attempt to ‘shoe horn’ a multiple theoretical perspective research project into a thesis structured in terms of a singular theoretical perspective/research methodology are unlikely to achieve outcomes that are epistemologically satisfactory, and unlikely to make a *useful* contribution to knowledge, because the inherent compromises increase conceptual and analytical confusion in their field.

Perry’s 5 Chapter model of PhD thesis

Perry’s (1994) five-chapter model of long thesis offers a fast, straightforward, and well-developed process for successful PhD research, knowledge creation, and dissemination. It results in well-structured theses that provide accessible evidence for the assessment of PhD candidates’ competence. Perry’s thesis writing model also offers a coherent basis for theses that include data from action research, and has also proved beneficial for writing journal articles, reports, and research proposals. The modifications suggested below support the inclusion of multiple theoretical perspectives and also offer benefits in the other uses of the model.

Perry’s primary intentions in developing this thesis-writing model were to:

- Provide a structure to aid students in writing good-quality theses.
- Use research findings about examiners main criticisms of theses to minimise amendments and avoid failures.
- Support students in completing their research and their thesis submission in a timely fashion - preferably close to the minimum time permitted for the award.
- Reduce attrition, and improve research and educational outcomes.

The model is especially helpful because it:

- Removes much of the opacity and unnecessary complexity that disguises theoretical, epistemological and ontological inconsistencies in many PhD theses.
- Improves research efficiency by reducing the amount of time that candidates and supervisors spend in resolving inconsistencies.
- Provides an epistemologically coherent structure for developing, describing and disseminating new knowledge and describing the processes by which it was derived.

Two key aspects of the model are its clear separation between: research ‘problem’, research ‘questions’ and research ‘methods’; and its provision of a single explanatory pathway through the thesis. The five chapters of the model are:

- **Ch 1: Introduction.**

This provides the reader with an executive summary of the PhD candidate’s research. In it, the researcher outlines: their *research problem*; the *research questions* that need to be addressed to resolve this problem; the *research methods* chosen by the researcher to gather data to answer their research questions; their findings; the implications of these findings for resolving the research problem; and the wider implications of the findings.

Chapter 1 also describes the justification for addressing the research problem; the definitions of terms and key concepts; and the delimitations of the candidate's research inquiries.

- **Ch 2: Review of Literature.**

The candidate reviews the main bodies of existing cutting-edge knowledge in the literature that relates to addressing the *research problem*. It is during this review that the candidate identifies the *research questions* that must be answered to address the *research problem* that forms the basis for the candidate's research project.

- **Ch 3: Methodology.**

In Perry's original model, this chapter is used to describe and justify the data gathering *methods* the candidate uses to collect the data to answer their research questions.

- **Ch 4: Results**

In this chapter, the candidate lays out the data gathered via the methods described in Chapter 3 in a form easily accessible to the reader. Any analyses presented in this chapter relate only to the relationships between the data and the data-collection methods.

- **Ch 5: Conclusions.**

In this final chapter, the candidate describes how the research problem identified in Chapter 1 is resolved as a result of the information described in Chapter 4, which resulted from addressing the research questions raised in Chapter 2. In Chapter 5, the PhD candidate's contributions to knowledge, in the realm of theory, are fully developed and described. This chapter also contains a discussion of the limitations of the candidate's analyses and suggestions for future research.

All additional material, references, raw data and supplementary analyses are appended after these five chapters.

In this original version, the focus of Chapter 3 is the *methods* and *techniques* used for data collection. Where addressed at all, issues associated with *choosing* these data collection methods are a minor aspect of Chapter 2.

Modified 5 chapter PhD thesis model

The discussion earlier in the paper indicate that theoretical perspective(s), especially multiple theoretical perspectives, have a more significant role than they have been accorded in Perry's original five-chapter model. They point to a need to refocus Perry's thesis model onto theoretical perspectives rather than data gathering methods.

Most of this re-engineering of epistemological foundations can be achieved by changing Chapter 3 so that its primary focus is the PhD candidate's theoretical perspectives, and the ontological, epistemological, theoretical, and methodological analyses that identify and describe the most appropriate ways for them to address the research questions they have identified in Chapter 2. Chapter 3 would then also contain the candidate's descriptions of the analyses and justifications underpinning their choices of data gathering methods. For clarity, in Chapter 3 and perhaps Chapters 1 and 5, some candidates may also choose to graphically map out the conceptual structure of relationships between their theoretical perspectives, data

gathering methods and analyses. Representing the different aspects of the foundations of their research in this way provides a ready-made structure for writing Chapter 3. It also supports candidates in writing sections of Chapters 1 and 5, and aligns with Perry's recommendations that candidates include visual representations of relationships between different aspects of the background knowledge in their literature review in Chapter 2.

In many research areas, PhD candidates are likely to find one or more of their research questions directly concerned with issues of theoretical perspective. Another benefit of the proposed modifications to Perry's 5 chapter thesis writing model is the answers to such research questions (to be reported in Chapter 4) naturally emerge in Chapter 3 as a result of analyses relating to theoretical perspective.

Conclusions

The paper draws attention to recent concerns about the conceptual foundations of PhD research training and assessment. It contributes to resolving some of these concerns about the foundations of long thesis PhDs by clarifying epistemological issues relating to the roles of multiple theoretical perspectives. It proposes a modified form of Perry's 5 chapter thesis model that addresses weaknesses in the ways multiple theoretical perspectives are included in the analyses and justifications that underpin PhD candidates' descriptions of their research.

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