Enacting knowledge in dissertations: An exploratory analysis of doctoral writing using Legitimation Code Theory

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Statement of originality

This is to certify that to the best of my knowledge, the content of this thesis is my own work. This thesis has not been submitted for any degree or other purposes.

I certify that the intellectual content of this thesis is the product of my own work and that all the assistance received in preparing this thesis and sources have been acknowledged.

KIRSTIN DIANNE WILMOT
January 2019

ABSTRACT

This thesis addresses the practical problem of developing effective writing pedagogy to support doctoral candidates. It does this by focusing on the ways knowledge is organised in dissertations and the strategies used to enact these practices in writing. In doing so, the thesis offers an alternative perspective on knowledge practices in doctoral dissertations that goes beyond distinguishing between knowledge 'types' and simple descriptive categories of disciplines (e.g. 'hard' vs. 'soft'). The study shows how this alternative perspective can see knowledge, analyse knowledge and, importantly, reveal the organising principles of knowledge; and from this it develops tools and descriptions that uncover generalizable strategies for knowledge-building oriented toward doctoral-writing pedagogy.

Drawing on Legitimation Code Theory the thesis explores 25 exemplary doctoral dissertations across a range of subject areas in the humanities and social sciences. Through analyses at multiple levels of granularity – from whole dissertations, to individual sections and fine-grained phases of writing – it develops a set of conceptual tools for analysing knowledge in writing and demonstrates how such tools can be used to unpack the knowledge work involved in dissertations.

Through the dimension of Specialization, five 'core components' of dissertations are distinguished that reveal a set of strategies candidates use to foreground different kinds of knowledge. These strategies point to the bases of the claims being made, revealing one aspect of the 'rules of the game' underpinning dissertation writing. These 'rules' are not tied to any one discipline; rather, the strategies are organised according to the kind of knowledge-claim enacted. Drawing on the dimension of Semantics, key strategies for shifting the context-dependence and complexity of knowledge are explored that show how students construct findings in exemplary ways. To orient toward pedagogy, the strategies are then turned back onto the dissertations to demonstrate their utility for analysing texts to reveal key pedagogic insights.

The framework developed in this thesis provides an entry point for developing theoretically sophisticated but empirically-grounded tools with pedagogic potential for analysing knowledge practices in doctoral writing.

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CHAPTER 1
INTRODUCTION

1. INTRODUCTION

This is a thesis about theses.

The research presented in this thesis focuses on the practical problem of developing more effective doctoral writing pedagogy to better support doctoral candidates. It does this by addressing a 'pre-problem' to the problem: the need to see knowledge in dissertations. The study draws on existing literature to show that there is an intellectual and pedagogic need to consider the features of doctoral writing itself, in order to understand the knowledge practices that make a dissertation a success. Furthermore, the study shows that in order to address this 'pre-problem', an approach that can look beyond content knowledge produced in dissertations to rather reveal generalisations about why and how particular knowledge is built in particular ways is needed. Such an approach needs to be able to see knowledge, analyse knowledge and, importantly, reveal the organising principles of knowledge in order to uncover generalizable strategies to inform pedagogy. This study provides a starting point to addressing this 'pre-problem' by developing such an approach.

2. A FOCUS ON DISSERTATIONS

The dissertation is key to a doctorate. It is where a candidate needs to demonstrate what they know and how this knowledge has made an original contribution to the field. It also remains, for many subject areas, the primary means of assessment of the research product. A successful examination outcome of the dissertation[1] provides graduates with entry to academia – indeed, many describe a successful dissertation as the symbolic 'ticket' into the field. The writing of a

[1] Dissertation/thesis refers only to the product of a traditional Doctor of Philosophy degree in this study (i.e. not Doctor of Education or Doctor of Social Science, theses by publication, or creative arts dissertations). Furthermore, 'thesis' and 'dissertation' are understood to share the same meaning. Where possible, I refer to the data (i.e. the sample) as 'dissertations' and my own study as 'thesis' to avoid potential confusion.

dissertation, therefore, is a high-stakes activity. Yet surprisingly, there is very little explicit research available on the features which make a dissertation a success.

As universities across the world experience increased pressure from massification processes, there is a growing need to support a greater number and more diverse cohort of students. These changes are amplified in many contexts where universities are experiencing concurrent shifts to neoliberal values, typically resulting in less time and fewer resources to support students effectively. Broader social and contextual pressures are being keenly felt at the doctoral level, where larger and more diverse candidate cohorts are being experienced in parallel to aging professoriates. This means that there is increased pressure on academics to supervise more diverse candidates in a quicker timeframe in order to produce highly qualified graduates for the workforce and to grow future generations of academics (Kamler & Thomson, 2014; Thomson & Walker, 2010).

In response to growing pressures on universities and academic staff, researchers are exploring ways in which student learning can be better supported during their candidature. One approach to helping doctoral candidates succeed is to provide more effective pedagogic support for the writing of the dissertation. Research has shown that doctoral writing is a challenge for many candidates and often causes a range of emotional and intellectual hardships, often resulting in non-completions (Kamler & Thomson, 2004). As such, doctoral writing is a growing area of inquiry in many related fields. Scholars working in academic literacies, academic development, English for Academic Purposes, applied linguistics, genre-based approaches, educational linguistics, systemic functional linguistics and the sociology of higher education more generally, have started grappling with the problem of how to make doctoral writing practices more explicit, in order for new candidates to learn how to write their dissertations more effectively. This thesis will show however, that while these studies successfully raise the status of doctoral writing as a worthy topic of inquiry, few studies look at the features of dissertations themselves, particularly in terms of revealing implications for pedagogic development. As such, doctoral writing, to a large extent, remains ‘marginalized and shrouded in silence’ in research (Starke-Meyerring, 2014, p. 137).

The few studies that do focus on the features of writing (typically genre-based linguistic studies) raise important questions and provide useful understandings of features of texts. Such insights have important implications for pedagogy. Research has shown, however, that

analysing doctoral dissertations presents a challenge in research given their sheer size and disciplinary complexity, among other attributes (Paltridge, 2002). This is particularly the case for linguistic studies that typically focus on smaller texts in great analytical detail. For this reason, few extensive linguistic studies of doctoral dissertations are available. As such, there are far more studies that talk *about* writing than those that *analyse* the features of the writing itself. This presents a problem for the field, as we first need to understand the features of doctoral writing before we can begin to find effective ways to teach them to candidates.

Scholars such as Starfield and Ravelli (2006, p. 236) argue that in order to understand the 'genres of advanced literature' – i.e. doctoral writing – 'it is imperative to extend one's own knowledge base and study doctoral theses being produced and deemed successful at the local level of the institution'. Studying existing doctoral writing, particularly that enacted in exemplary dissertations, provides a way to further our understanding of what features of writing make a dissertation successful. To do so, however, requires an approach that is able to overcome many of the methodological limitations experienced by existing research. Furthermore, this thesis argues that in order to fully engage with the features of exemplary dissertations, an approach that can see and analyse the *knowledge* enacted through the writing is crucial.

3. A FOCUS ON KNOWLEDGE IN DISSERTATIONS

With the conceptual advances made by New Literacy Studies in the 1990s (see Chapter 2, Literature Review for a full discussion), scholars are now acknowledging the knowledge work undertaken in doctoral writing to a far greater degree than in past approaches. There has thus been a steady increase in studies on doctoral writing that point to the meaning-making potential of writing, the identity work that occurs through/in writing and the disciplinary nature of writing. Such studies provide an important starting point for pointing to the deep connections between language (and thus writing) and knowledge practices.

Despite conceptual advancements in the field, however, there is limited existing research that is able to make knowledge practices in dissertations explicit. This means that although studies suggest that knowledge is being enacted in writing, few provide an explicit account of what practices are being enacted and how they are constructed through writing. In other words, they

do not analyse knowledge practices as an object of study. The implication of this is that doctoral writing pedagogy tends to ignore knowledge work.

As a result of the 'knowledge-blindness' (Maton, 2014b) inherent in much research, problems with writing are commonly understood in deficit terms, in the sense of a candidate lacking the right 'skills'. From this understanding, pedagogic approaches often focus on surface features of language such as grammar and spelling and offer little more than simplistic understandings of organisational structure (Kamler & Thomson, 2014). Furthermore, many approaches assume that candidates 'do' research and then 'write up' at the end of their research journeys (Kamler & Thomson, 2007). This assumption treats writing as separate from the rest of the disciplinary knowledge-building process of research; as a transparent 'vehicle' for thought (Christie 1985, p. 298) instead of being the means for constructing such thought in the first instance (Kamler & Thomson, 2014). The result of this assumption is that the role of writing – as a central process of inquiry in the research and learning process – is obscured from view (Kamler & Thomson, 2014). This means that the knowledge practices, which are enacted through writing, become obscured as well.

Compounding this issue of 'knowledge blindness' in approaches to, and understandings of, doctoral writing is the inability of supervisors to articulate their own practices explicitly to candidates. For example, Paré (2011) has shown that supervisors often lack the 'reflective ability' (Bazerman, 2009, p. 289) to understand how their disciplinary practices work. That is, they lack the ability to explicitly unpack and engage with the writing practices that they have come to internalise through years of socialisation in their discipline. Therefore, although supervisors are typically adept at writing – and by extension, building knowledge – themselves, they often lack the means or confidence to teach this craft to their students effectively. There are also few explicit pedagogic resources available for supervisors to draw on to support their own teaching practice (Kamler & Thomson, 2014).

In order to put knowledge centre stage in research and pedagogic development, we first need to be able to see knowledge practices in dissertations. Once we can see knowledge, we can then find ways to analyse how knowledge practices are enacted in exemplary dissertations in order to make the practice of building knowledge explicit. Seeing and analysing knowledge practices in dissertations, however, require a specific set of conceptual tools.

4. A NEED FOR CONCEPTUAL TOOLS

Studies of doctoral writing have revealed a range of insights about the nature of dissertations. Linguistic studies in particular have afforded an understanding of many of the textual and organisational variables involved in writing a dissertation and provide rich descriptions of the empirical choices that are available to candidates. While existing studies point to the knowledge work enacted in dissertations, few are able to analyse the knowledge practices themselves. Those that do typically distinguish between knowledge 'types', for example 'humanities' writing versus 'social science' writing (see, for example Parry, 1998), or they use simple descriptive categories, such as 'hard' and 'soft' (Hyland, 2011). While such characterisations provide a starting point to understanding knowledge, when used in practice these categories typically raise more questions than they can provide answers. What is needed, therefore, is a way to see beyond knowledge 'types', to rather analyse the organising principles of knowledge practices. This requires a particular approach, and more specifically, a set of conceptual tools for analysing knowledge practices in doctoral writing. This is what this thesis aims to address.

This research, therefore, takes a step back from pedagogic development to address a 'pre-problem' of not being able to see knowledge in writing. To address this problem it develops a set of conceptual tools for analysing knowledge practices in dissertations. The study does this by going back to the beginning, starting with the simple definition of what a successful doctorate should contain, as set out in policy. It then considers a sample of exemplary[2] doctoral dissertations to see how successful dissertations attend to meeting the requirements set out in policy. In order to analyse the knowledge practices in dissertations, the thesis develops conceptual tools that build on a sophisticated sociological framework that is capable of seeing knowledge – Legitimation Code Theory (LCT). Furthermore, using illustrative examples and analyses, the thesis demonstrates how these tools can

a) see knowledge in dissertations;
b) analyse the organising principles of knowledge practices in order to understand what kinds of knowledge are valued and how they are constructed through a series of strategies in the writing; and

[2] 'Exemplary', as used in this thesis, relates to a dissertation that stood out to established academics as being particularly noteworthy in terms of the quality of the research and the way it was written. The process of how such dissertations were identified and collected for the study is explained in detail in Chapter 5, Methodology.

c) generate generalizable principles, strategies and tools for pedagogic development.

These objectives are guided by a set of simple research questions, which are now presented.

5. RESEARCH QUESTIONS

This thesis provides a qualitative exploratory study of 25 exemplary doctoral dissertations from across the social sciences and humanities in order to develop a set of conceptual tools for analysing knowledge in writing. It does this by addressing the following research questions:

1. What kinds of knowledge practices create a successful doctoral dissertation?
2. How are exemplary knowledge practices enacted in writing?
3. How can conceptual tools analyse exemplary knowledge practices?

To address these questions the study draws on the LCT dimensions of Specialization and Semantics. This framework affords a way to see knowledge in practices, providing an important starting point for developing theoretically sophisticated but empirically-applicable tools with pedagogic potential for analysing knowledge practices in doctoral writing specifically.

6. STRUCTURE OF THESIS

This chapter has outlined the practical problem facing the field and has pointed to the conceptual issues that will be addressed in this thesis. Chapter 2, *Literature Review*, extends this discussion in greater detail by reviewing relevant literature on doctoral writing in order to establish and justify the rationale for undertaking the research. Chapter 3, *Theoretical Framework*, provides the conceptual framework adopted in the research, Legitimation Code Theory. It describes in depth the different dimensions of the theory that are used in the study and explains how these dimensions have been used to address educational problems in existing research. This more abstract, theoretical discussion is then contextualised in Chapter 4, *Methodology*, with a more detailed account of how the theory is enacted. This chapter includes a description of the data sample used in the study, as well as how the sample was identified and collected, and the ethical implications involved. It also provides a detailed account of how

LCT concepts are enacted in the study to develop conceptual tools for analysing knowledge practices in doctoral dissertations.

Chapter 5, *Defining a successful doctorate: A new way to characterise doctoral writing*, presents an empirical analysis of the sample of dissertations in relation to the definition of a doctorate, as defined in policy, as well as thesis-writing guidebooks. It reveals an inductive schema for doctoral writing comprising five 'core components' that all dissertations need to address in order to meet the criteria for the degree.

Chapter 6, *Strategies for demonstrating knowledge: Unpacking the schema*, presents a Specialization analysis of the five core components identified in Chapter 5. In particular, it uses the concepts of *epistemic relations* and *social relations* as well as the 4-K model to develop tools to analyse how candidates construct different kinds of knowledge over the course of the dissertation. Furthermore, it illustrates how dissertations can be conceptualised as a collection of active components, which can be constructed in different ways. This allows a more flexible way to understand how candidates can foreground different kinds of knowledge for different purposes in each of the components.

Building on the Specialization analysis, Chapter 7, *Strategies for constructing findings: Shifts in context-dependence and complexity*, explores one of the core components of dissertations ('constructing findings') in more detail. This chapter uses Semantics, particularly the concepts of *epistemic-semantic gravity* and *epistemic-semantic density* to identify and understand key moves in writing as strategies for shifting context-dependence and complexity of meanings. Drawing on dissertations from across the sample, this analysis reveals how these strategies enable candidates to reach out to, and establish relations between, simple empirical meanings inherent in materials (data) and abstract, complex academic meanings imbued in existing knowledge in the field.

Chapter 8, *Configurations of knowledge: Exemplary patterns for 'weaving'*, employs the schemas for context strategies and complexity strategies identified in Chapter 7 as a set of conceptual tools for analysing texts. The chapter illustrates how the tools can be enacted to reveal exemplary configurations for 'weaving' between context-dependence and complexity of knowledge in writing. Furthermore, it suggests ways in which the tools can be further developed into diagnostic and scaffolding tools for pedagogy.

The final chapter of the thesis, Chapter 9, *Conclusion*, provides a summary of the main research findings in relation to how they have addressed the three research questions informing the study. Furthermore, it discusses the implications of the findings, particularly the development of conceptual tools, in relation to future pedagogic development. Suggestions for future research in this regard are provided. The chapter also provides a discussion of the theoretical implications of the findings, in terms of how they contribute a new theoretical perspective for understanding doctoral writing to the field of doctoral education studies, higher education studies, academic literacies and the sociology of education more broadly and in terms of how they have contributed to the development of Legitimation Code Theory. The thesis concludes with a self-reflexive activity where I use the tools I have created in this thesis to characterise my own knowledge practices.

CHAPTER 2
LITERATURE REVIEW

1. INTRODUCTION

Chapter 1 provided an introduction to, and overview of, the study at hand. In particular, it set up the rationale for the research based on the need to develop more effective pedagogy for doctoral writing. In order to address this concern, however, the introduction established a 'pre-problem' facing the development of pedagogy – that of seeing knowledge in dissertations. It is this 'pre-problem' which the remainder of this thesis addresses.

This chapter builds on the introduction provided in Chapter 1 and, drawing on key literature from the field, establishes the rationale for the research in more detail. First, the chapter provides a brief overview of the theoretical foundations and approaches to academic writing more generally. It describes how understandings of writing have changed over time and it discusses key contemporary approaches to academic writing on which this study builds. The chapter then narrows its focus by reviewing literature on doctoral writing specifically by considering studies which detail approaches to and experiences and practices of doctoral writing, as well as linguistic studies of the features of doctoral writing. Following this, the chapter considers literature regarding the learning of doctoral writing. This includes a review of studies on supervision practices (relating to writing development specifically), pedagogic interventions, learning through peers and self-learning through thesis-writing guidebooks. Lastly, the chapter reviews studies that consider the knowledge work undertaken in doctoral dissertations.

The chapter concludes with a synthesis of the substantive issues that are known in the field, as well as issues that still need to be addressed. In relation to these unresolved substantive issues, the chapter identifies a set of theoretical concerns that need to be met in order for the substantive issues to be addressed in research. These theoretical concerns are then explored in greater depth in the forthcoming chapter, Theoretical Framework.

2. MAPPING THE FIELD: THEORETICAL ORIENTATIONS TO ACADEMIC WRITING

Understandings of literacy practices more generally, and academic writing in particular, have shifted significantly since the 1960s when writing, as an object of study, became a burgeoning interest of research enquiry. To contextualise the present study within past and existing approaches, a brief overview of the field is provided. Following this, the chapter will then consider contemporary approaches to, and studies of, *doctoral* writing in particular.

Dominant approaches to studying writing during the 1960s were influenced by process theories. Process theorists, such as Rohman (1965), emphasised the notion of 'pre-writing' as a process of discovery. The idea behind this theory is that thought/meaning/knowledge does not pre-exist in the mind, but must be brought forth and developed through an active process of thinking. Proponents of the theory believed that candidates needed to be taught the thinking process behind *generating* texts, rather than be taught examples of model prose from model texts (Rohman, 1965, p. 106). In this regard, 'pre-writing' or 'free-writing' (Elbow, 1973) was seen to be a way to engage in the creative stage of discovery, where candidates could transform their experience of an event.

Building on this understanding, the 1970s witnessed the rise of writing-to-learn theories that emphasised the role writing plays with developing thought and for learning processes more generally. Drawing on psychological research, proponents of writing-to-learn theories such as Emig (1977, p. 122) argued that 'higher cognitive functions, such as analysis and synthesis, seem to develop most fully only with the support of verbal language – particularly it seems of written language'. As such, writing was considered to be an instrument for thought, again inspiring the use of 'free' or 'pre-writing' activities to encourage learning.

In the 1980s, the influence of cognitive psychology impacted writing theories with the emergence of cognitive process theories. Advocates, such as Flower and Hayes (1981) critiqued process theories, such as Rohman's (1965) work, as being too linear. They also critiqued the value placed on modelling the emergence of the written product, rather than highlighting the 'inner process' that occurs within the mind of the person producing the text (Flower & Hayes, 1981, p. 367). In this respect, scholars contended that the cognitive processes (such as planning, translating and reviewing) should be foregrounded in the teaching of writing

(Flower & Hayes, 1981, p. 368). This theory was later rejected due to it largely ignoring context and because it 'posited a fixed mechanistic view of human mental activity' (Starke-Meyerring & Paré, 2011, p. 12).

During the 1960s–1980s English for Academic Purposes (EAP) was developing as an approach in the field. According to Wingate and Tribble (2012), EAP emerged as a 'child' of English for Specific Purposes (ESP) and adopts its theoretical underpinnings from the influential studies on register and genre developed by Halliday and Hasan (1985) and Halliday, McIntosh and Stevens (1964). Genre-based approaches have proliferated since these early days and are one of the dominant approaches used in higher education contexts (particularly in the USA, Canada and Australasia) today (Wingate, 2012). At a simplistic level, genre-based approaches have branched into three main areas: English for specific purposes (ESP), rhetorical genre studies and the Australian systemic functional linguistics (SFL) tradition, or what is commonly known as the 'Sydney School' (Hyon, 1996).

ESP approaches have been strongly influenced by the work of Swales (1990), focusing on the formal properties of genres and their communicative purpose in varying social contexts (Hyon, 1996, p. 695). New Rhetoric Studies focus more on the social context in which genres occur, placing emphasis on their active role and the purpose they serve (Hyon, 1996, p. 695). As such, they often adopt ethnographic methods in research rather than conducting purely linguistic analysis. This branch has informed the Writing in the Disciplines approach, popular in USA undergraduate curriculum. Sydney School genre approaches use SFL as their analytical tool to analyse texts in order to reveal how genre is a 'staged, goal-oriented social process', which uses structural forms for various purposes depending on the social context (Martin, 1993, p. 121 as cited in Wingate, 2012, p. 28). Despite approaching genre analysis in varying ways, all three branches prioritise textual analysis for identifying characteristic textual features of texts.

The 1990s saw a fundamental shift in thinking, with approaches acknowledging and foregrounding the understanding of writing as a socially and culturally situated practice – an orientation that also emphasises the connections between writing and knowledge creation. An influential theoretical development in this regard came from New Literacy Studies and the subsequent 'academic literacies' approach to literacy practices. The early work of Brian Street (1984) as well as the joint studies of Mary Lea and Brian Street (1998, 2006) had a significant influence on understandings of writing in particular. These scholars critiqued existing

approaches to writing instruction by conceptually distinguishing between 'autonomous' models of literacy that treat literacy as a set of cognitive, technical and neutral skills; and 'ideological' models of literacy which view literacy as a social practice, rooted in 'conceptions of knowledge, identity and being' (Street, 2003, p. 77). Work by James Gee (1996, 2010, 2012) furthered these understandings, particularly his concept of 'Discourse' – a socially recognizable identity or particular way of being and doing that holds ideological value – to help explain the contentious, value-laden and ideological process of cultivating a particular identity and associated practices in academia. These practices, writing being one of them, are seldom made explicit to newcomers.

Unlike the text-centred genre-based approaches, academic literacies privileges *practice* over text (Lillis & Scott, 2007). The approach is considered by its proponents to be 'transformative' in that it encourages candidates to challenge hegemonic practices (Lillis & Scott, 2007). In contrast, text-based approaches are considered to be 'normative' in that they are seen to adopt an 'identify and induct' academic socialisation goal (Lillis & Scott, 2007, p. 12). Text-based approaches have also been criticised for being 'technicist' in that they are seen to focus primarily on surface language features rather than disciplinary knowledge conventions (Turner, 2004). Such a viewpoint has come under scrutiny by scholars, however, who claim that academic literacies theorists are over-critical of text-centred approaches and unfairly dismiss their contribution to writing pedagogy (Wingate & Tribble, 2012). In privileging practices over texts, academic literacies scholars have also been criticised for losing the textual component entirely and for being pedagogically under-developed (Baynham, 2000; Lillis & Scott, 2007). Scholars such as Wingate (2012, p. 28) have raised the question of how candidates can be expected to challenge dominant practices if they have not yet first learned what these practices are and how they manifest in writing.

There is growing debate between genre-based pedagogies and academic literacies, the two dominant contemporary approaches to academic writing. Both have been influenced by past approaches to writing and share a number of common understandings about the sociality of writing and the implications this has for constructing knowledge. Both approaches have also influenced understandings of literacy and pedagogic approaches in the South African context. The academic literacies approach has become particularly influential in response to past approaches that adopted deficit models to literacy. Indeed, Rampton (1995) notes that many of the British colonies were influenced by the autonomous model of British English language

teaching; understanding literacy as a set of neutral language skills that could be learned in decontextualized ways. As such, poor candidate retention and success rates were misunderstood as language problems (Boughey, 2002) and English language instruction approaches essentially '[denied] candidates access to power modes of using language' (Boughey & McKenna, 2016, p. 2). Despite the influence of the ideological model on thinking, the uptake and development of transformative approaches to literacy practices in South African higher education contexts has been slow and uneven (Niven, 2012). Genre theory, to a lesser degree, has been used by scholars to theorise their work in literacy studies, but again, researchers such as Jacobs (2013) have shown that there is not enough articulation of this work in practice.

This study is positioned between these two approaches: it aligns with academic literacies in that it sees writing – and by extension, disciplinary knowledge-building – as an ideological, socially-situated practice rather than a set of neutral language skills. Following genre theory approaches however, it supports the view that in order to challenge and disrupt practices, one first has to understand how these practices manifest in reality. To do this, textual analysis is necessary. Where the current study diverts from both approaches, however, is that instead of focusing on writing *practices* or the linguistic features of texts, it considers the knowledge practices enacted in writing. To justify this perspective, current literature on doctoral writing specifically is now considered to determine what is known about doctoral writing as an object of study and what issues remain unresolved in existing research.

3. UNDERSTANDING DOCTORAL WRITING

This section considers studies that focus on doctoral writing specifically. It considers four different areas of research: qualitative studies of candidate experiences of doctoral writing, linguistic analyses of doctoral dissertations, practice-based studies of pedagogic approaches to doctoral writing, and studies that analyse knowledge in doctoral writing. Drawing on these four different perspectives, the remainder of this chapter demonstrates what is known about the craft of doctoral writing and how these findings have come to be known, and it argues for the need for a sociological knowledge perspective to complement and extend existing approaches.

3.1. Experiences of doctoral writing

Literature focusing on candidate experiences of doctoral writing tends to consist of small-scale, qualitative studies based on interview and survey data. The studies are typically informed by an academic literacies framework, or, at the very least, adopt a socio-cultural orientation to writing, seeing writing as a social practice that is always situated within a disciplinary context, involving issues of meaning-making, identity transformation and power (see, for example Aitchison, Catterall, Ross, & Burgin, 2012; Caffarella & Barnett, 2010; Maher, Seaton, McMullen, Fitzgerald, & Lee, 2008; Wang & Li, 2011). Within this orientation, authors (most often literacy or writing specialists from learning or literacy support units) typically employ interpretivist thematic analysis to explore issues around practices of writing, receiving feedback on writing, developing writing skills and the emotional experience of writing.

Being small-scale, studies of candidate experiences of doctoral writing provide detailed accounts of how candidates grapple with the writing process of doctoral research. For example, in a study of two international doctoral candidates, Cotterall (2011) discusses the experiences of writing a traditional full thesis as well as a thesis by publication. By limiting the scope of the sample, the author is able to provide a detailed comparison case study of the two different encounters with writing as well as the development of writing practices experienced by the two candidates.

The detailed description typical of studies of candidate experiences provide important insight into how doctoral writing is experienced at an individual level. For example, Aitchison, Catterall, Ross and Burgin (2012) describe how doctoral writing is experienced as emotional labour – both the actual writing as well as managing supervisor feedback. Likewise, studies have shown how resilience is a key attribute for doctoral candidates to have when embarking on a doctorate, given the emotional experience most candidates face (Odena & Burgess, 2015).

Studies of candidate experience are also useful for highlighting issues associated with the socially-situated nature of writing and disciplinary knowledge construction. For example, Starke-Meyerring (2011) describes how a lack of explicit feedback on how to construct knowledge impacts candidates. This, she explains, is because supervisor's writing practices have become normalised to such a degree that they can no longer articulate their own discursive practices. Similar findings are shown in Cotterall's (2011) study using Wenger's (1998)

‘communities of practice’ framework. She argues that one cannot assume that supervisors will induct candidates into their disciplinary ways of being and doing effectively due to their lack of ability and the power dynamics between supervisors and candidates.

While providing useful insights for understanding how writing is experienced, detailed interpretivist studies typically foreground contextualised candidate perspectives through rich description, as opposed to theoretical analysis of data that can lead to generalizable interpretations for pedagogic development. For example, using thematic analysis to consider responses from 30 candidates, Odena and Burgess (2015) describe how no one type of feedback style was favoured by all candidates. This provides useful insight in terms of understanding why some feedback styles benefit some candidates and not others; however, such an approach lacks explanatory power to step back from such a detailed account to develop generalisations of feedback practices that can be used to enhance pedagogic development. Therefore, while providing a valuable perspective on the issues facing candidates and raising the need for more effective doctoral writing pedagogy, such studies are, however, limited in terms of creating generalizable principles and identifying implications to inform doctoral writing pedagogy. They are also unable to provide much insight into how knowledge is constructed through writing.

3.2. Features of doctoral writing

A number of studies have pointed to the fact that there is a dearth of research that analyses the features of doctoral writing in any depth (see, for example Aitchison & Lee, 2006; Kamler & Thomson, 2014; Paré, Starke-Meyerring, & McAlpine, 2009). This is explained as being due to a number of constraints on researchers, including the sheer size of doctoral texts (making it difficult for detailed textual analysis), the changing nature of doctorates and what count as legitimate texts, the varied purpose of dissertations, the kinds of skills and knowledge they should demonstrate, as well as how they are evaluated (Paltridge, 2002; Paltridge & Starfield, 2019). Considering the studies that do focus on textual features, most are conducted using linguistic approaches (often from the subfields of applied linguistics and ESP). Very few are researched from an academic literacies framework, given the theory’s preference for privileging *practice* over text (Lillis & Scott, 2007). Exceptions to this, particularly the work of Barbara Kamler and Pat Thomson, are reviewed in the following section in relation to pedagogic development.

Linguistic studies of the features of doctoral writing typically adopt genre-based approaches (often influenced by the work of Swales), which seek to uncover 'stabilized-for-now' (Schryer, 1994, p. 108) patterns of textual features that serve various functions in typical situations within the dissertation. In this sense, scholars acknowledge the socio-cultural nature of writing and the fact that different situations, disciplinary contexts, research perspectives, value systems and so forth, will invariably impact how a text is formed, making definite rules difficult to formulate (Paré, 2014). These patterns of features differ in analyses, ranging from the 'macrostructures' of entire dissertations (typical of much of Paltridge's work) to the micro-level rhetorical strategies at sentence level (for example, Turner, 2003). Paltridge, Starfield, Ravelli and Nicholson's (2012) study of dissertations in the visual and performing arts adopted a 'textographic' approach (Swales, 1998) which combined textual analysis of dissertations with ethnographic methods such as surveys, interviews, focus groups and so forth (see also Paltridge et al, 2011, 2012, 2014; Starfield et al 2012, 2014). This enabled the scholars to conduct in-depth textual analyses, while still engaging with socio-cultural aspects of writing practices and knowledge construction.

Working within the field of ESP, Brian Paltridge and colleagues have contributed substantial understandings of the doctorate as a complex genre. Their work is motivated by the argument that candidates (particularly international candidates) need to be exposed to the different choices available to them when writing their dissertation, rather than following the rigid and simplistic generic structures typically provided in thesis-writing guides (Paltridge, 2002). Paltridge argues this is best done by analysing actual texts – particularly high-achieving texts, as well as engaging with the creators of the texts (i.e. candidates) and supervisors/examiners, to better understand the purpose of the rhetorical choices that have been enacted. For example, focusing primarily at the 'macrostructure' level, Paltridge (2002) describes a number of organisational structures that typify most dissertations – simple traditional, complex traditional and topic-based dissertations. These structures show some alignment with different disciplines (e.g. 'topic-based' is more typically associated with humanities dissertations), however, as Paltridge and others show, this is not always the case (Paltridge, 2002; Paltridge, Starfield, Ravelli, & Tuckwell, 2012; Starfield & Ravelli, 2006). What is useful about conducting such analyses is that these different structural options are defined, described and explained in terms of what purpose they can serve, as well as what kinds of features can be expected within them.

Such insights are furthered in a later chapter on dissertation writing by Paltridge and Starfield (2019) who provide a detailed breakdown of five different macrostructures of dissertations and include details of the common parts within each structure (for example, a simple traditional structure will typically include Introduction, Literature review, Materials and methods, Results, Discussion, Conclusions). Furthermore, description of the kinds of sections included within each component is provided. This provides candidates with a clearer understanding of what is expected of them, as well as some different options for composing their dissertations.

In an analysis of the macrostructures of history and sociology dissertations, Starfield and Ravelli (2006) show how structural elements of the dissertation are imbued with meaning-making and identity, revealing how candidates align themselves with particular branches of their discipline. For example, they show how using metaphorical titles that emphasise the subject of an action as opposed to descriptive titles that use impersonal nominalisations can project a particular way of thinking. Similarly, the authors provide detailed analysis and explanation of the use of personal pronouns in writing and when these may be appropriate. The authors also provide valuable insight into how dissertations from the same subject area do not necessarily conform to the same structures. Such insights create 'rhetorical consciousness-raising' (Swales, 1990), making candidates (and supervisors) aware of the diverse and variable features available for building meanings in texts (Paltridge, Starfield, Ravelli, & Nicholson, 2012, p. 1000).

Linguistic analyses also provide insight into the more micro-level rhetorical features of dissertations. For example, in a textographic study of a doctoral candidate working in the contemporary humanities, Turner (2003) works at the sentence and word level to reveal how particular rhetorical features can disrupt traditional ways of presenting knowledge. Turner notes how her candidate enacts unconventional splicing strategies in her writing (e.g. 'inside/outside') as a way of 'rhetoricising the understanding of "doubleness"' and as a way of showing 'epistemic "undecidability"' (2003, p. 43). She also provides examples of texts where her candidate used unconventional tautologies, described by the candidate as allowing the reader to 'choose' whichever meaning he/she wanted. Detailed analyses such as this, discussed in relation to feedback from the creator of the text (typical of the textographic approach) affords a way to make the micro textual elements of the dissertation explicit, as well as showing how genres may be undergoing change. A limitation of such close analysis, however, is that it is highly detailed and specific – a time consuming and linguistically-complex approach to

pedagogy. This presents a challenge for generating pedagogic implications that can be used outside of a linguistic/applied linguistic context and which have broader application to the dissertation as a whole. It also focuses more on the surface features of texts as opposed to the knowledge practices underlying such features.

The above review of linguistic studies of doctoral dissertations reveals their utility in identifying common rhetorical patterns that can be generalised across dissertations and subject areas. Identifying these features and making them explicit exposes candidates to the variability in dissertation writing and the multitude of different choices available to them. Importantly, genre-based studies typically also include detailed explanation of the purpose of different rhetorical choices and provide examples of how these features can be enacted in texts. This means that candidates not only know what choices are available but can also learn where and when they are appropriate and how to enact them in texts. Where such studies are potentially limited however, and where they can be extended with complementary approaches, is in accounting for the different kinds of knowledge candidates build and how this impacts on their choice of rhetorical features. For example, two dissertations can share the same macrostructures, but within those structures, they may build vastly different kinds of knowledge. Such an understanding could be afforded by analysing the knowledge practices in dissertations as objects of study in their own right. This could provide a useful complementary analysis to linguistic approaches to create more effective doctoral writing pedagogy.

3.3. Learning doctoral writing

A burgeoning body of literature on doctoral writing is written within a pedagogic framing, with scholars exploring ways in which the practice of dissertation writing can be more effectively supported and taught. The literature typically comprises small-scale practice-based case studies based on scholars' teaching and research experience, or provides reflections on pedagogic interventions and initiatives for supporting candidates. To establish what these studies reveal about doctoral writing, literature across four main themes is considered: supervising doctoral writing, teaching doctoral writing, peer-learning and 'self-learning'.

3.3.1. Supervising doctoral writing

A common theme in literature on supervision is the finding that supervisors struggle to help

their candidates develop their writing craft. Studies show that not all supervisors have the 'reflective ability' to understand how their disciplinary practices work – i.e. they lack the ability to explicitly unpack and engage with the writing practices that they have come to internalise through years of socialisation in their discipline (Paré, 2011; Paré, Starke-Meyerring, & McAlpine, 2011; Parry, 1998). This has led to a proliferation of research on conceptualising more effective approaches for teaching doctoral writing in the supervision space, which is now considered.

Contemporary studies on supervising doctoral writing are, to a large extent, framed within a socio-cultural orientation to literacies, seeing writing as a socially-situated practice that is intimately connected to issues of power, identity and disciplinary knowledge. Research shows that the field lacks a systematic pedagogic approach to supervising doctoral writing (Aitchison & Lee, 2006), resulting in studies drawing on different theories to understand the learning process, for example, Engeström and Middleton (1998) and Lave and Wenger's (1991) workplace learning theory (Paré, Starke-Meyerring, & McAlpine, 2011) and supervision frameworks (Lee & Murray, 2015). This means that the methods and data used in such studies varies from more conceptual papers that advocate a specific framework (such as the two mentioned above), to specific case studies where scholars reflect on their own practices (for example, Doyle, Manathunga, Prinsen, Tallon and Cornforth's (2018) study on supervising African candidates' writing in a New Zealand university) to more practice-based approaches (for example, analysing supervisor feedback on writing, such as Kumar and Stracke's (2007) study).

Small-scale case studies of supervision experiences and practices are useful for gaining insight into the issues experienced in this space regarding writing. Typically drawing on interviews and personal reflections, these interpretivist qualitative studies offer rich descriptions of supervisor-candidate interaction and in particular, highlight the more affective aspects of learning to write. This includes, for example, the angst and hardship of receiving harsh feedback, feelings of disrespect when being referred to university writing support units and the need for mutual respect in the supervision space (see, for example Doyle et al., 2018). Other case studies describe at length the process of writing development. For example, Padmanabhan and Rossetto (2017, pp. 5–6) reflect on how a candidate began to write 'analytically' after being taught how to start a paragraph with a claim; followed by a justification for the claim; evidence; analysis of the evidence; comment on the evidence and a link to the next paragraph.

Similarly, the authors also comment how a candidate began 'insert[ing] her voice' (p.6) in the writing. While pointing to important features in writing, the studies rarely provide details on what these features are – i.e. they do not fully engage with the discursive features of the writing. For instance, in the above example, what it means to 'insert voice' or how this is achieved in practice is not addressed. As such, few pedagogic implications can be drawn from the description, other than raising 'voice' as an important issue for writing development.

Other scholars such as Barbara Kamler and Pat Thomson have taken up the issue of supervisor support by exploring a variety of different concerns in dissertation writing over a number of years. For example, using a social practice approach closely aligned with New Literacy Studies, the authors analyse, deconstruct and develop a pedagogy for the writing of research abstracts (Kamler & Thomson, 2004). Similarly, in a later study, the authors concentrate on the literature review as a site of text work and identity work, as candidates develop their voice and authority as knowledge producers (Kamler & Thomson, 2007). The authors present a consolidated account of their pedagogic approach for developing writing in their book *Helping Doctoral Candidates Write: Pedagogies for supervision* (Kamler & Thomson, 2014). Given their theoretical orientation, the authors not only provide explicit advice on the textual components through their studies, but also conceptualise how the writing of the thesis involves critical identity work as well, providing advice on how this aspect of writing development can be supported in supervisions. Such analyses raise important issues for supervisors, particularly in heightening their awareness of the social implications of doctoral writing. Accounts of this nature are limited, however, in that while they describe ways to build a scholarly/disciplinary identity and give insights into how meanings can be put together (e.g. how to write 'persuasively'), the studies do not provide much insight into the disciplinary ways of building different kinds of knowledge. As such, there is not much explicit explanation or discussion on how dissertations might be constructed differently and enact different kinds of knowledge according to their disciplinary norms and conventions.

Other studies that attempt to develop supervision pedagogies for doctoral writing include Pare, Starke-Meyerring and McAlpine's (2011) research using workplace learning theory and rhetorical genre theory. Drawing on a larger longitudinal study of education doctoral candidates, the authors describe how students need to learn how to position their knowledge within different locations (e.g. between local department and disciplinary field) and how they have to show alignment with key approaches/scholars/ways of knowing – and that knowing

how to do this appropriately signals ‘inside’ and ‘outside’ status. Similarly, Lee and Murray (2015) describe how a supervision framework with ‘functional’, ‘enculturation’, ‘critical thinking’, ‘emancipation’ and ‘developing quality relationships’ components (p. 563) can be used to teach writing more explicitly. For example, the authors claim that feedback and assessment can play an ‘enculturation’ role, and that ‘introducing rhetorical strategies’ can play a role in developing ‘critical thinking’ (p. 563). While pointing to important features, such as different readerships and the need to provide effective feedback, the insights are limited in that they do not break these practices down in explicit terms. For example, what are noteworthy ‘rhetorical strategies’ to learn? What do they look like in practice? How are they taught explicitly to candidates? As such, features of doctoral writing are marked as salient, but little explanation is given in terms of what they are (i.e. what they look like in practice) and how they can be enacted.

A number of studies that consider supervisor feedback on candidate writing are emerging in the field. These studies typically present small-scale case studies usually written from the perspective of a writing advisor or someone with experience in academic literacy support, and often include the candidates themselves as authors. The studies therefore typically include questionnaires, interviews with supervisors and candidates, personal experience and reflections, as well as examples of textual feedback (including in-text and general comments) as data. Studies of feedback are usually very descriptive; although theories are drawn on to make sense of the practices. The broad framework of pragmatic functions of language is widely used in studies, as well as other complementary frameworks such as the academic discourse community approach and Vygotsky’s (1978) zone of proximal development (see, for example Basturkmen, East, & Bitchener, 2014; Kumar & Stracke, 2007; Xu, 2017).

Drawing on the pragmatic functions of language, studies of supervisor feedback typically distinguish between different kinds of feedback used for different purposes (Basturkmen et al., 2014; Kumar & Stracke, 2007; Xu, 2017). For example, a distinction is commonly made between directive (asking for information, seeking clarifications, making suggestions), referential (providing information or correcting) and expressive feedback (praise or criticism). Some studies, such as Xu (2017), also distinguish between the purpose of feedback, for example, between linguistic accuracy, content, organisation and appropriateness. Feedback is typically thematically coded based on the identified categories and quantified to reveal the frequency of the different forms it takes. For example, linguistic accuracy is shown across

studies to be the primary form of feedback, followed by that on content (Basturkmen et al., 2014; Kumar & Stracke, 2007; Xu, 2017). Studies also show, for example, that when giving linguistic feedback, referential strategies are used while directives are typically used to provide feedback on content (Basturkmen et al., 2014).

Less frequently, studies provide advice on how feedback issues in supervisions can be managed. For example, Carter and Kumar (2017) suggest that if candidates do not implement feedback, supervisors can propose a similar policy to that of journal publications, whereby the candidate has to submit a list of changes made and justify where changes were not made. This, the authors suggest, can heighten awareness of discursive features as well as create accountability. Other studies reveal what supervisors do when they lack a 'meta-language' for engaging with the rhetorical features of writing effectively with candidates. For example, Paré (2011) describes how supervisors use metaphors to describe the logical sequence and hierarchical structure of texts, which he describes as the movement from 'generalities to specifics' and from 'abstractions to concrete detail' (p. 68). This provides some insight into how supervisors cope with the demands of candidate writing.

Small-scale, descriptive case studies of supervisor feedback are useful for raising salient issues within the supervision space, as well as making different kinds of feedback more explicit. This provides an important starting point for understanding the need for active and explicit engagement with features of texts. The studies do not, however, provide much insight into the disciplinary knowledge that candidates are expected to enact and which supervisors are expected to teach. In other words, the studies raise the issue of constructing knowledge in writing, but do not provide a clear sense of what such practices look like in texts, nor how they can be deconstructed and made explicit through feedback, particularly in a more generalizable way that does not depend on specificities of content knowledge.

3.3.2. Teaching doctoral writing

Studies on the teaching of doctoral writing are typically practice-focused, written from the perspective of learning or writing advisors/specialists who are often located in learning or writing centres or academic literacy support units. The studies draw primarily on personal experience and reflections on pedagogic approaches and are most often located within the field of genre theory. The literature typically comprises small-scale case studies of writing courses

or workshops that have been designed and implemented in specific contexts, often with the goal to share insights related to 'best practice'.

A distinction can be made within this subset of literature between studies that provide rich descriptions and overviews of programmes and initiatives, describing what they are, how they were conceptualised and how they have been implemented in university contexts; and more practice-based studies that provide insight into the 'nitty gritty' of pedagogy, providing insight into not only what is taught but also how it is taught. For example, Aitchison and Paré (2012) provide a description of their two different approaches and their different affordances (Paré's a text-centred approach based on Rhetorical Genre Theory and Aitchison's a practice-centred approach based on understandings of academic literacies). In the study the authors describe the common practices/activities and procedures of their approaches, but very few concrete details are given about the features of disciplinary knowledge-building that candidates must learn and enact in texts. This is similar to a conceptual paper by Carter (2011), who presents an argument for the use of generic writing workshops to support what she claims are the generic features of dissertations. While such studies raise awareness of different approaches to teaching writing, they do not provide much insight into what is taught and how it is taught in practice.

In contrast to these more descriptive, general studies, a collection of papers published in a special edition of the *Hong Kong Journal of Applied Linguistics* in 2003 provide much more detailed insight into the features of writing addressed through explicit instruction. For example, Starfield (2003), working within an applied linguistics framework, not only presents an argument for the need to work with authentic texts with candidates – in order to expose them to the range of choices they have available – but also demonstrates how this can be done in practice. For example, she discusses, with examples from her workshops, how candidates are given an applied linguistics framework of different 'moves' in Introductions: establishing a research territory, establishing a niche, and occupying the niche (Starfield, 2003, p. 144). She then explains how candidates are provided with examples of texts that have been deconstructed using this framework (providing images of such analysis in the paper), with the process and explanation of the analysis being discussed explicitly with candidates. She then describes how candidates are given new texts and are required to do the same analysis on their own or in groups. Such a detailed example provides insight not only into what kind of textual features are focused on in workshops, but the author also usefully explains how such features can be broken down and made explicit to candidates through modelling and explicit interrogation of practices. Similar detail can be found in Nelson and San Miguel's (2003) paper on workshops

for professional doctorates in the sciences, as well as Skillen and Purser's (2003) study on the thesis-writing programme developed at the University of Wollongong, Australia.

Studies on the teaching of doctoral writing, either through courses, workshops or in consultations, offer useful insights for understanding what doctoral writing comprises, the complexity of the genre and some of the ways in which it is taught. The more practice-based papers in particular offer rich understandings of some of the salient features of dissertations and provide useful practical examples of how such features can be taught. Similar to linguistic analyses of dissertations (discussed in Section 3.2), these studies provide an important step in understanding the disciplinary features of doctoral writing and how they can be made explicit to candidates. Such accounts, however, could be enhanced and extended by moving beyond the linguistic resources used to build meanings, to consider the actual knowledge being constructed. Such an understanding would afford a different perspective on disciplinary discourse, which could extend our understanding and potentially enhance pedagogic approaches (such as the ones presented here) even further.

3.3.3. Peer-learning

A number of studies have emerged on the use of writing groups to support doctoral writing. Such initiatives adopt an academic literacies approach that privileges the development of writing practices and associated identity transformations. Studies of writing groups are typically small-scale case studies that describe specific initiatives in specific contexts. Authors typically draw on candidate evaluations and interviews with participants and facilitators to understand the role writing groups can play in candidate learning and writing development. The studies are generally conducted by academic literacy/writing specialists who oversee or organise groups, or by participants of the groups themselves. In this respect, personal experience is also commonly drawn on when understanding the data, which is typically analysed using constant comparison or thematic analysis. Studies do, at times, draw on theories such as Vygotsky's (1978) zone of proximal development to understand doctoral development as a form of peer learning (see, for example Kumar and Aitchison, 2018).

A prolific author of studies on writing groups is Claire Aitchison. Working in an Australian context, Aitchison, together with colleagues, has demonstrated the potential for writing groups to be used as socio-cultural, peer-oriented learning spaces (see, for example, Aitchison, 2003, 2009; Aitchison & Lee, 2006; Aitchison & Paré, 2012; Kumar & Aitchison, 2018). In these

case studies, the authors provide details of the approach and the learning opportunities it affords. As such, the studies are often written for a practice-based audience, to share experiences, approaches, successes and failures with the wider field. For example, Kumar and Aitchison (2018) report on an initiative whereby a small cohort of doctoral candidates took part in a 10 week writing course to develop their knowledge and expertise on doctoral writing in order for them to be facilitators of writing groups at a later stage. Studies also typically describe group activities, such as how language-focused activities (for example, developing arguments), can be incorporated into meetings (Aitchison & Lee, 2006).

A common argument made in the various studies of writing groups is on the importance of giving and receiving feedback, which is described as creating rhetorical awareness (Aitchison, 2009; Aitchison & Lee, 2006; Chihota & Thesen, 2014; Larcombe, McCosker, & O'Loughlin, 2007). Another common finding is the role writing groups play in supporting the development of candidate identity, voice and confidence. For example, writing from a South African context, Chihota and Thesen (2014, p. 131) describe how candidates can 'rehearse' different identity positions as they learn from peers in a low-stakes environment and Wilmot & McKenna (2018) show how students value the supportive space afforded by writing groups for developing their scholarly voice and challenging their assumptions about writing.

In sharing experiences of writing groups, studies also reveal some of the limitations of the approach. For example, Starke-Meyerring (2014) raises the question about the legitimacy of feedback in writing groups – i.e. whether peers have enough meta-knowledge of writing and discursive practices to be able to recognise rhetorical features and understand them enough to be able to offer advice on how to construct them in writing. This viewpoint may well be influenced by the author's own theoretical alignment – Rhetorical Genre Studies – which favours a focus on identifying and deconstructing textual features; however, it does raise interesting questions about whether or not candidates can fully engage with disciplinary meaning-making issues without first being made aware of what these discursive features look like in texts, how they operate and the effect this has on the knowledge being constructed.

Studies on writing groups therefore provide useful descriptions of how writing support can be conceptualised within an academic literacies framework. In doing so, the studies provide a useful contrast to genre-based studies by foregrounding the development of writing as a social practice and addressing issues of identity and voice through the community of practice it

provides. As small-case, qualitative case studies that typically describe overall approaches and candidate experiences of initiatives, they provide useful practical insight into how the groups work and what they afford, but offer little detailed explanation of the specific discursive issues that are addressed in the groups and how they are unpacked and made clear to candidates. They also raise important questions around whether peers are able to effectively grapple with knowledge-building issues without first developing an understanding of what knowledge practices are and how they are enacted in writing.

3.3.4. Self-learning

The final section of literature considered in terms of how candidates learn doctoral writing is the 'self-help' genre of thesis-writing guidebooks (Kamler & Thomson, 2008). A vast number of guidebooks on how to write a successful dissertation have emerged on the market, reportedly breaking down the criteria for doctorates into practical applications. Varying in focus and delivery of advice, most tend to focus on two main aspects relating to writing: ideas on structure and providing models for writing particular aspects of the dissertation. In terms of structure, thesis-writing guidebooks set up a series of assumptions about what a dissertation will likely contain and convey a fairly rigid structure of Introduction, Literature review, Methodology, Results chapters (where the analysis gets done) and a Conclusion. These parts are also assumed to be discrete chapters that are labelled with explicit titles (e.g. 'Literature review'). Some texts, for example Evans, Gruba and Zobel (2014) and Oliver (2014) include detailed sections on how to emphasise the contribution to knowledge in a dissertation, while others will merely gloss this requirement. Other texts, for example, Lunenburg and Irby (2008), include detailed sections on all the common parts of a dissertation.

In addition to creating a set of simplistic assumptions about thesis structure, guidebooks, at times, offer contradictory advice. For example, the inclusion of a theory chapter is not a common feature across guidebooks, with some proposing that theory be used to frame the 'theoretical rationale' of the dissertation (Brause, 2000, p. 103-104), while others propose that it forms part of the methodology in terms of the 'epistemology of the research' (Blair, 2016). Theory is also suggested to be a part of the literature review (James & Slater, 2014), while others do not mention this aspect at all. Guidebooks therefore, construct a set of common-sense simplistic assumptions about what core features a dissertation will likely include, and

furthermore, create a certain amount of confusion in that guides can – and often do – give conflicting advice.

When practical advice concerning writing is offered, the suggestions often relate to content rather than reasons for enacting knowledge in particular ways. For example, James and Slater (2014, pp. 128–130) discuss three different models for literature reviews: the inverted triangle, the Venn diagram, and the jigsaw puzzle. They provide detailed explanation of all three models, explaining when one will be appropriate over another. Similarly, Lunenburg and Irby (2008, p. 143) describe how literature reviews are best written in a 'funnel' model, starting broad and then gradually working down towards specific studies that directly relate to the research at hand. These two books also provide examples of how this is achieved by quoting excerpts from highly successful (prize-winning) doctoral dissertations – a useful aspect which is not common to the genre. The different models presented in these guidebooks are useful for exemplifying to candidates that they have choices when writing different parts of the dissertation. The guides, however, offer only surface-feature advice such as how broad the focus will be when writing the literature review. They do not offer much insight into *why* particular features get written in particular ways in terms of the knowledge being enacted.

There are also many thesis-writing guidebooks that, ironically, offer very little advice on writing, tending to focus more on time management and organisation. For example, in *How to Write an Exceptional Thesis or Dissertation: A Step-by-Step Guide from Proposal to Successful Defense*, Graustein (2012) includes a chapter entitled 'Write'. Although seemingly about writing, the chapter begins: 'Once your adviser approves a semi-final draft of your thesis, you can schedule your thesis/dissertation defence' (p. 294) – thus assuming that the 'writing' has already been done. This problematically separates writing from research and scholarly development; an aspect that is widely contested in theoretically informed literature (Thomson & Kamler, 2010).

Two studies of thesis-writing guidebooks have been conducted by Paltridge (2002), from a genre perspective, and Kamler and Thomson (2008), from a (broadly) academic literacies perspective. Both studies provide persuasive arguments that, on the whole, guidebooks fail candidates by providing misleading, oversimplified advice on features of the dissertation and by perpetuating a 'habituated transmission pedagogy that ignores the knowledge and life experiences of doctoral researchers' (Kamler & Thomson, 2008, p. 512). As such, candidates

are not made aware of the different choices available to them, nor are they made aware of what the different choices afford in terms of building knowledge and what they mean for developing a scholarly identity. As a result, guidebooks often conceal more than they reveal and create additional confusion and anxiety for candidates.

3.4. Knowledge practices in doctoral writing

The integral relationship between language and knowledge construction has long been argued in research on writing. Language is no longer considered a neutral 'vehicle' for knowledge, but as a 'resource' that is central to developing thought, information and attitude (Christie, 1985, p. 299). As this understanding took hold in the 1980s, scholars started considering the disciplinary differences in knowledge, which, they argued, reflected different academic communities or 'academic tribes' (Becher, 1989) – i.e. different ways of 'doing and being' in academia (similar to Gee's (2012) notion of Discourse). Most studies of knowledge in writing have been conducted on published research articles (see, for example Bazerman, 1981; Becher, 1987; Hyland, 2000, 2011), however, a few more recent studies of knowledge in doctoral writing have emerged (see, for example Johns & Swales, 2002; Parry, 1998, 2007; Swales & Feak, 2000). Most notable is a study by Ravelli, Paltridge and Starfield (2014) which enacts a sociological knowledge framework to analyse the organising principles of knowledge practices in doctoral dissertations.

In a seminal paper on knowledge and academic discourse, Charles Bazerman (1981) conducted an analysis of knowledge in the writing of three research articles from molecular biology, the sociology of science and literary criticism. Using what he calls a 'minimal theory of language…little more than an orientation towards texts' (1981, p. 362), Bazerman analyses the texts according to four contexts: the object under study, the literature of the field, the anticipated audience, and the author's own self. The way writers bring these four contexts together, Bazerman argues, reveals key insights into disciplinary knowledge practices. He argues that these contexts can be reinterpreted as 'language and reality', 'language and tradition', 'language and society' and 'author's own self' (1981, p. 364), and he warns of the dangers of only focusing on these factors in isolation. For example, he cautions that considering language and the mind in isolation creates a subjective view of language detached from reality and social context, and that focusing exclusively on language and reality results in language either being assumed to be an unproblematic reflection of reality or as being 'arbitrary,

radically split from nature, with no perceiving cognitive selves and no trace of rational community to heal the split' (1981, p. 364).

In his analysis, Bazerman (1981) makes important observations about knowledge practices. For example, he shows how terms used in biology are often very complex, with multiple meanings being compressed into single items (such as 'deoxyribose nucleic acid'), and how through their use in specific contexts, words can take on additional technical meaning – for example, how 'acid' changes from an everyday meaning of 'sour-tasting' to 'a molecule or ion that can combine with another by forming a covalent bond with two electrons of the other' (p. 366). He also points out the difference in author voice between subjects. For example, he shows how in biology, when author voice is asserted in the text, it is typically projected in a subordinate relation to the object of study – i.e. the object of study and conditions of nature are always emphasised above any particular scholar. Furthermore, author presence is typically presented as an intellectual activity, a process of coming to know the object of study. Who the author is as a person, is therefore not important. Bazerman compares this to subjects like the sociology of science, where authors need to project a stronger voice in writing because common knowledge and shared frameworks for understanding phenomena cannot be assumed, as multiple divergent approaches exist (p. 369). In this sense, authors have to persuade their readers more directly, not only in terms of the claims they are making, but also in terms of the framework in which they are working. The knowledge constructed is therefore a more individual endeavour, which necessitates a stronger author presence in the writing (p. 370). Bazerman explains how this creates discontinuity and upheaval in subjects like the sociology of science, where individual approaches constantly struggle for legitimacy.

Bazerman (1981) shows how the presence of the author is even more strongly inserted in literary criticism, as the knowledge constructed here is entirely dependent on the author's subjective interpretation. In this sense, the new perspective is constructed to replace or transform existing perspectives (p. 373). Bazerman (1981, p. 374) argues that the knowledge created in such fields is intentionally specific – it is about creating a unique understanding of a specific object, it is not about creating broader generalisations of phenomena that can be used across contexts (an aspect of knowledge that might be valued in subjects like sociology). Interestingly, Bazerman also raises the issue that in subjects like literary criticism, words take on additional meanings (similar to biology, in that they become more complex), but in this instance, they take on additional value-based meanings. For example, he claims that to

understand the word ‘sublime’, ‘one must not only have read Longinus and be familiar with the ensuing critical debate to modern times, one must have experienced a wide range of poems that embody the development and variation of that concept’ (p. 376). This provides evidence of the social aspect of knowledge, which can, in effect, be as important (in some subject areas) as formal definitions and meanings of words used. Furthermore, Bazerman argues that fields such as literary criticism often do not unpack or explain these dense meanings in writing, leaving them open to interpretation to the reader – unlike more science-based subjects that explain every claim in ‘specific, univocal meanings with clear-cut application’ (1981, p. 377).

The insights provided by Bazerman (1981) have been discussed at length here, as they offer the most relevant understandings for the work undertaken in this thesis. Not only does his analysis reveal knowledge practices in writing, it also shows important differences in writing that espouse disciplinary ways of being and doing. The analysis therefore provides a start to revealing the tacit disciplinary knowledge features that doctoral candidates need to master in their dissertations in order to gain entry into their academic communities. The study provides a way to see how this can be done, raising the possibility of conducting similar such analyses on doctoral dissertations.

The foundational work of Bazerman has been developed particularly by linguistic studies. For example Becher (1987) conducts an ‘empirical enquiry’ on the structure of arguments in research articles from history, physics and sociology. His findings largely parallel those of Bazerman. Becher’s earlier work also drew on interview data to consider the perceptions of academics working in the fields of history, sociology, law, physics, biology and engineering in terms of their knowledge practices (Becher, 1981). Adopting a corpus approach, Ken Hyland (2000, 2011) has explored knowledge in a range of published research articles through the linguistic features of citations, directives, questions, authorial pronouns and engagement. For example, in a study which analysed a corpus of 240 research articles (30 papers for each of the eight subject areas included), as well as interview data, Hyland (2011) analyses the grammatical devices that express stance and engagement in texts. These include features such as hedges, attitude markers, self-mention, as well as directives, questions and knowledge references. Hyland makes a number of claims about the nature of ‘hard’ (science) and ‘soft’ (social science and humanities) disciplines based on these grammatical features of texts. For example, he claims that ‘soft’ fields enact more interactional markers than ‘hard’ fields, given that ‘soft’ fields ‘produce discourses which often recast knowledge as sympathetic

understanding, promoting tolerance in readers through ethical rather than cognitive progression' (p. 204). While providing interesting insight, the work sets up broad assumptions about 'hard' and 'soft' disciplines that often flounder when faced with empirical data and the nuanced variation therein.

Knowledge in doctoral writing has arguably been most extensively explored by Sharon Parry (1998, 2007). Although systemic functional linguistics (SFL) is stated as the approach used alongside the 'framework of domains of academic writing' as devised by Becher (1987), the analysis appears to be more closely aligned (and draws substantially on), the work of Becher. In her 1998 paper, Parry reports on an analysis of eight science, eight social science and eight humanities doctoral dissertations. Using Becher's (1987) framework, she considers the structure of arguments, citation and acknowledgement and the tacit expression of discipline-specific knowledge. Unlike previous studies such as Bazerman (1981), which analyse individual subjects and are careful not to project generalisations to whole disciplines, Parry works at a more general level, making claims about the disciplines of science, humanities and social science. While individual dissertations are drawn on to exemplify, the study as a whole works within these three broad distinctions. The findings revealed are similar to those of Becher (1987), such as claiming that science dissertations build knowledge from the 'bottom up' while humanities and social sciences from 'top down' (p. 280), and that the sciences have a standardised and formalised style of reporting procedures (essentially a set of moves that 'cap' existing research, p. 282), while humanities and social sciences need to link their ideas through narrative (p. 284-285).

While raising interesting insights into how the disciplinary features of doctoral writing are largely the same as those revealed in academic research articles (the focus of previous research), Parry's descriptions are at times vague. For example, when showing how ideas are linked in a text in the social sciences, Parry (1998, p. 287) comments:

> The cohesion here is developed by linking from one sentence to the next because the argument is developed mainly through explanation and reflects a particularistic perspective. To support the perspective, there is a heavy reliance on existing theory.

The somewhat vague explanation here is further problematized in that it is presented as representing social science knowledge in general. It also raises a number of associated

questions, such as how a ‘particularistic perspective’ is constructed in the first instance, and what kind of knowledge is drawn on to do so. It would also be useful to gain an understanding of how existing theory is incorporated into the argument being made and how the links are constructed between the phenomenon and the outside knowledge the candidate is drawing on. Perhaps this focus was beyond the scope of the specific paper, however, generalised (and at times somewhat vague) claims about ‘science’ versus ‘humanities’ versus ‘social science’ are evident throughout the paper. Such claims make intuitive sense theoretically, but raise the potential to be dismantled when faced with empirical data, as this thesis will show in later chapters.

Linguistic studies of knowledge in academic and doctoral writing raise a number of useful insights that are drawn on in this study. In particular, many of Bazerman’s (1981) ideas are extended and developed. One of the main limitations of the above studies on knowledge is their tendency to generalise beyond specific texts to disciplinary groups as wholes, such as ‘science’ versus ‘humanities’ (as in Becher and Parry’s work) or between ‘hard’ and ‘soft’ knowledge (for example in Hyland’s work). This has the tendency to construct a typology of knowledge ‘types’ and descriptive categories that might work in theory, but which prove limited empirically, as this study will show. Studies also typically prioritise the grammatical features of texts that help construct different types of meanings. In this sense, they tend to focus on the surface manifestations of knowledge as enacted in writing rather than on the knowledge itself, as an object in its own right. By doing so, many useful features or ‘discursive resources’ for constructing meaning are identified. What is not made evident, however, is the kind of knowledge being constructed (outside of the typologies identified above) and the principles that give rise to such knowledge. Such a perspective would afford an understanding of the *knowledge practices* valued by different academic communities, as well as the organising principles that give rise to different kinds of knowledge.

In a more recent publication, Ravelli, Paltridge and Starfield (2014) have used Legitimation Code Theory (LCT) to explore the knowledge practices enacted in creative and performing arts dissertations in Australia. This study provides a different perspective to the literature on knowledge in writing, as it adopts a sociological theory that is capable of analysing the organising principles of knowledge practices as objects in their own right. In doing so, the authors show how diversity seen in dissertations can be better accounted for by identifying the nature of knowledge being enacted, rather than relying on linguistic/genre features such as

macrostructures, alone. By using the concepts of ‘epistemic relations’ and ‘social relations’, the authors were able to understand why and how different dissertations within the same subject area are able to construct different kinds of knowledge and demonstrate varied structures and organisation, while still being assigned equal value. For example, the authors show that dissertations which typically enact conventional macrostructures (Introduction-Methods-Results-Discussion) and conventional academic voices (impersonal, formal), can be largely clustered into a ‘knowledge code’ which foregrounds procedural, specialised meanings concerning the nature of the object of study (p. 396). Those with unconventional structures and a range of academic voices tended to cluster into a ‘knower code’, where legitimacy is granted through an ‘assertion of [the authors] right to do so, in relation to a potentially diverse set of foci’ (p. 396). Using LCT, the authors were better able to account for the diversity in dissertation structures.

By providing a different perspective on how knowledge is enacted in writing, Ravelli, Paltridge and Starfield (2014) raise key insights into how knowledge can be analysed as an object in its own right. In this sense, it shows how LCT can be used to complement understandings of the more surface-level manifestations of knowledge (which linguistic studies are particularly useful for revealing), by analysing the organising principles which give rise to the different forms taken by knowledge.

4. CONCLUSION

This chapter has contextualised the study at hand within the broader theoretical debates in the field of academic literacies and linguistics more generally (including applied linguistics, ESL, EAP and genre-based approaches). It has reviewed literature pertaining to four different aspects of doctoral writing: candidate experiences of writing, the features of doctoral writing, pedagogic approaches to teaching and learning doctoral writing, and finally, the knowledge enacted in writing. The review revealed a number of important insights into the nature of doctoral writing but also highlighted a number of key issues that need further consideration in order to understand the features of doctoral writing and how they can be more effectively taught to candidates.

Given the accepted understanding of writing as a socially-situated discursive practice that is intrinsically connected to disciplinary meaning-making and knowledge-building, there is a need to make the knowledge practices involved in doctoral writing more explicit and demonstrable. Linguistic studies provide an essential first step by identifying and deconstructing rhetorical features used to enact particular meanings in texts. Based on insights revealed by literature, however, in order to fully engage with disciplinary knowledge there is a need to go beyond surface manifestations of knowledge, seen in grammatical categories or analyses of content knowledge, to look at the mechanisms that give rise to the different forms taken by knowledge. As such, the review of literature raises the following substantive issues:

- the need to focus on *the forms taken by knowledge* in writing – i.e. to analyse knowledge as an object in its own right;
- the need to identify and understand the *knowledge strategies* that enact different kinds of knowledge in writing;
- the need to develop knowledge-informed pedagogies that reveal the *rules of the game* to candidates by making legitimate knowledge practices and the strategies which enact them, explicit and demonstrable.

In order to address these knowledge-based issues, a systematic approach for analysing knowledge as an object of study is needed. Such an approach needs to move beyond surface features of knowledge to analyse the organising principles that give rise to its different forms. In other words, an approach that can analyse the *basis* of knowledge practices is needed. Such an approach could systematically explore change and similarity/difference in dissertations without getting lost in the endless variation of what candidates write about – i.e. the *focus* of the knowledge – or the surface features of language enacting the knowledge. LCT provides the field with such an approach. The next chapter – Chapter 4, *Theoretical Framework* – explores this approach in greater depth, tracing its theoretical foundations as well as defining the key dimensions of the framework in relation to how they have been used to address knowledge issues in existing educational research.

CHAPTER 3
THEORETICAL FRAMEWORK

1. INTRODUCTION

Chapter 2 reviewed existing literature on doctoral writing in order to contextualise the current study within contemporary approaches to writing and to reveal what is known about the topic, how this knowledge has come to be known, and what remains to be addressed in the field. The literature review revealed a number of useful insights about writing. In particular, linguistic analyses of features of writing showed the utility of (particularly) genre-based approaches for identifying and demystifying key rhetorical resources and genre features for constructing different kinds of dissertations. These include the more macro organisational aspects of dissertations (such as macrostructures), as well as the more micro concerns of writing, such as grammatical features of texts. Studies of knowledge in academic writing were also shown to reveal important insights into how disciplines construct different kinds of knowledge in texts.

While the majority of literature acknowledges the meaning-making and knowledge-building potential of writing, few studies address the practical implications of how doctoral candidates enact knowledge practices in their dissertations. As Maton (2014b, p. 8) claims, 'recognizing the need to analyse knowledge is not realizing the analysis of knowledge, for this requires the right kind of conceptual tools'. Apart from linguistic analyses of dissertations, much of the literature on doctoral writing consists of small-scale descriptive studies that are limited in theoretical explanatory power to be able to provide such an account of the knowledge work in doctoral writing. Linguistic studies that do consider knowledge in dissertations tend to favour a focus on the linguistic features enacted in surface manifestations of knowledge, such as grammatical features, or tend to generalise knowledge features according to typologies (e.g. 'science' vs. 'humanities') or descriptive categories (e.g. 'hard' vs. 'soft'). Other studies tend to focus on knowledge content rather than the organising principles that give rise to different kinds of knowledge in writing.

The review of literature therefore revealed three key substantive issues that need further consideration if we are to fully understand the problem at hand:

- we need to focus on *the forms taken by knowledge* in writing – i.e. we need to analyse knowledge as an object in its own right;
- we need to identify and understand the *knowledge strategies* that enact different kinds of knowledge in writing;
- we need to develop knowledge-informed pedagogies that reveal the *rules of the game* to candidates by making legitimate knowledge practices and the strategies which enact them, explicit and demonstrable.

In order to address these issues, we need a new way to see knowledge in writing that does not reduce knowledge to surface features of content, that does not reduce language to grammatical categories, and one which can analyse disciplinary knowledge-building practices in a way that does not reduce them to fixed knowledge typologies. This requires an approach that can analyse the organising principles that give rise to different forms of knowledge in dissertations. Legitimation Code Theory provides a starting point for developing such an approach.

2. LEGITIMATION CODE THEORY

2.1. Why Legitimation Code Theory?

This study utilises Legitimation Code Theory (henceforth, 'LCT') to investigate how knowledge is enacted in the writing[3] of doctoral dissertations and how this differs across subject areas in what is commonly known as the 'social sciences' and the 'humanities'. Chapter 2 highlighted the need for approaches to doctoral writing that can look at the written product as an object of study (rather than experiences *of* writing, for example), while at the same time indicating the need for a focus beyond the surface features of language. In this sense, what is needed is a way to look at the knowledge practices informing the surface features of texts. This places attention on the *forms taken by knowledge* in writing, including an examination of why particular kinds of knowledge are chosen, as well as how those knowledge practices are enacted in writing.

[3] 'Writing' here is not intended to be the active process of writ*ing*. Rather, it refers to the *written product* that forms the dissertation as an object of study.

LCT provides a particularly appropriate theoretical framework for conceptualising doctoral writing due to its ability to analyse the organising principles that give rise to knowledge practices. By making these organising principles explicit, LCT is effectively able to reveal the 'rules of the game' for any practice in any context. In terms of doctoral writing, this means that the basis of achievement of dissertations can be identified, analysed and better understood – meaning that more informed understandings of doctoral writing and the knowledge work involved therein can be generated. In this sense, the analytical tools provided by LCT can be used to analyse why particular choices are made in doctoral writing, as well as to illuminate how these knowledge practices are enacted in the writing. Uncovering the basis of achievement in this way is a necessary first step for developing effective pedagogy to better support doctoral candidates – in other words, the *what* of pedagogy needs to be identified and understood before the *how* can be considered. Importantly, making the rules of the game explicit also means that access to this level of candidature can be opened up to more diverse candidates in that the 'rules' can be made available to all. Developing tools that can go beneath the surface to analyse the organising principles of practices – i.e. the *basis* of knowledge practices – is also necessary to systematically explore change and similarity/difference in dissertations without getting lost in the endless variation of what candidates write about – i.e. the *focus* of the knowledge.

From a social justice perspective, the use of LCT is also pertinent for understanding doctoral writing, as so often – particularly in contexts like South Africa with diverse candidates – academic literacy practices are misinterpreted as resulting from unprepared candidates, rather than interrogating the nature of academic practices themselves (Boughey & McKenna, 2016). This is particularly detrimental for practices such as doctoral writing where the learning is also expected to happen heuristically. Maton and Moore (2010) highlight that this problem of 'misdiagnosis' is a feature of education more generally, claiming that an 'educational dilemma' has resulted from research placing greater focus on the process of 'learning' rather than on the '*this*' being learned, as well as the focus on the socio-cultural nature of 'the learner' rather than on the 'the learner faced with *this*' (p.6) [emphasis in original]. There is thus a need to bring knowledge – as an object of study in its own right – back into the centre of analyses of doctoral writing in order to understand the complexity of discourse at this advanced level of higher education. LCT provides the starting point for developing conceptual tools to do this work.

2.2 An introduction to LCT

LCT is a theoretical framework offering a conceptual toolkit and analytical methodology. It was conceptualised in conversations with Social Realism in the 1990s insofar as adopting a social realist ontological positioning, viewing knowledge as incorporating both *social* and *real* qualities. This is important given that the field of higher education has been characterised as experiencing 'knowledge blindness' due to a 'false dichotomy' between positivist absolutionism and constructive relativism (Maton, 2014b). This dilemma relates to the either/or distinction between, on the one hand, treating knowledge as a decontextualized, value-free, detached and certain entity (positivist absolutionism) – essentially treating knowledge as essential Truth – and, on the other, knowledge being treated as socially constructed within cultural and historical conditions that reflect dominant social values (constructivist relativism) – reducing knowledge to the practice of 'knowers' (Maton, 2014b). Social realism reverts this juxtaposition to incorporate 'both/and', acknowledging the rational objectivity that knowledge does exist while at the same time recognising knowledge as a social phenomenon that is fallible rather than absolute or relative (Maton & Moore, 2010).

LCT offers a 'sociology of possibility' (Maton, 2014b, p. 3) that embraces the 'both/and' perspective of Social Realism, considering *relations to* and importantly, *relations within* knowledge. In this sense, it provides a realist way of thinking while at the same time maintaining the social character of knowledge. The theory incorporates and builds primarily on the work of Bernstein's code theory and Bourdieu's field theory, amongst others. It is multidimensional in that it comprises five different dimensions: Specialization, Semantics, Autonomy, Temporality and Density. Each dimension explores one set of organizing principles of dispositions, practices and fields, conceptualized in LCT as *legitimation codes*. An analysis of legitimation codes explores 'what is possible for whom, when, where and how, and who is able to define these possibilities, when, where and how' (Maton, 2014b, p. 18). The codes are defined by Maton (2016, pp. 238–243) as follows:

Specialization	explores practices in terms of knowledge-knower structures whose organising principles are given by *specialization codes* that comprise relative strengths of *epistemic relations* and *social relations*. These are mapped on the *specialization plane* and traced over time on *specialization*

	profiles. Specialization also includes the concepts of the 4-K model, including *insights*, *gazes*, and *lenses*.
Semantics[4]	explores practices in terms of their *semantic structures* whose organising principles are given by *semantic codes* that comprise strengths of *semantic gravity* and *semantic density*. These are mapped on the *semantic plane* and traced over time on *semantic profiles*.
Autonomy	explores practices in terms of *relatively autonomous social universes* whose organising principles are given by *autonomy codes* that comprise relative strengths of *positional autonomy* (PA) and *relational autonomy* (RA). These are mapped on the *autonomy plane* and traced over time on *autonomy profiles*.
Density	is a dimension of LCT that has not yet been fully explored and developed.
Temporality	is a dimension of LCT that has not yet been fully explored and developed.

The codes' principle modalities are further summarised in Table 3.1 below.

Table 3.1. Basic summary of legitimation codes (Maton, 2014b, p. 18)

Codes	*Concepts*	*Principle modalities*
Autonomy	positional autonomy, relational autonomy	PA+/–, RA+–
Density	material density, moral density	MaD+/–, MoD+/–
Specialization	epistemic relations, social relations	ER+/–, SR+/–
Semantics	semantic gravity, semantic density	SG+/–, SD+/–
Temporality	temporal position, temporal orientation	TP+/–, TO+/–

Embracing Bourdieu's relational way of thinking and extending Bernstein's code theory, these concepts are seen in relational terms, on a continuum rather than as typologies. For this reason, LCT's concepts are represented in terms of relative strengths and weaknesses on a Cartesian plane.

[4] Important to note here is that the LCT concept of 'Semantics' (always capitalised) is imbued with technical meaning within the framework of LCT. It therefore holds different meaning, and thus should not be confused with, the definition of 'semantics' in a linguistic sense. Semantics within linguistics is broadly concerned with meaning; Semantics in the LCT sense is specifically concerned with the *context-dependence* (semantic gravity) and *complexity* (semantic density) of meaning, not meaning itself.

Of interest to this study are the dimensions of Specialization and Semantics. Each of these dimensions will be explained in more detail in Sections 2 and 3 of this chapter and their practical application will be addressed in Chapter 4, Methodology.

2.3 Why LCT is well suited to address the research questions

LCT has been adopted in a number of studies to investigate a range of educational concerns, particularly in South Africa where the social justice imperative of opening access to higher education for diverse candidates is a priority. Research drawing on LCT in this context to date has largely focused on issues of disciplinary teaching and learning and literacy work in higher education in general (for example, Clarence, 2016; Clarence & McKenna, 2017; Luckett, 2012; Luckett & Hunma, 2014) as well as in specific subject areas such as engineering (Wolff & Hoffman, 2014). It has also been applied to studies focused on curriculum reform (for example, Kilpert & Shay, 2013; Luckett, 2016; Shay, 2015) as pressure mounts to not only open access to more candidates but to also de-colonialize the curriculum of South African higher education institutions. Such concerns for making the 'rules of the game' explicit so that access can be opened to a greater number of candidates is central to the research at hand. The select set of examples given here is evidence of the suitability and appropriateness of a framework such as LCT to explore these concerns.

Importantly, the substantive concerns of opening access as well as the theoretical application of LCT is not isolated to the South African context alone. LCT has been, and continues to be, used extensively internationally. For example, it has been used to interrogate teaching and learning practices in science education in Australia (see, for instance, Georgiou, Maton, & Sharma, 2014), as well as to investigate a variety of knowledge-building issues in secondary school classrooms, particularly in English literature (see, for example Christie, 2016; Maton, 2014b) and history (Martin, Maton, & Matruglio, 2010). It has also been used to look at issues of meaning-making in higher education contexts in the United Kingdom (for example, Clegg, 2015). LCT is also being used to explore knowledge-building issues outside of education, as evidenced in the work of Poulet (2016) on freemasonry in France and Thomson (2014) on language, diversity and social inclusion in the Australian Defence Force. A more extensive list illustrating the diversity of LCT-based research can be found on the LCT website (http://www.legitimationcodetheory.com).

Each unique empirical problem will necessitate varying theoretical requirements, meaning that an exhaustive LCT analysis using all five dimensions is not necessarily beneficial or appropriate. The nature of the empirical problem at hand – doctoral writing – calls for close analysis of knowledge enacted through writing. In particular, it investigates what type of knowledge is valued and why, as well as how it is enacted in the writing on a practical level. To analyse these features, the dimensions of Specialization and Semantics are deemed the most suitable – as the remainder of this chapter will demonstrate. Specialization affords a focus on both *epistemic relations* to practices and their object, as well as *social relations* between practices and their subject. This enables insights to be gained about what kinds of knowledge are valued in different doctoral dissertations and what kinds of knowers are considered legitimate. This affords insights into the disciplinary nature of doctoral writing whilst avoiding dichotomising knowledge 'types', as commonly found in the literature. Semantics enables the forms taken by knowledge, as enacted through writing, to be analysed. Semantics can thus be used to analyse and understand how candidates build knowledge through their dissertations on a practical level, such as moving between highly abstract, theoretical, complex knowledge to instances of concrete, simple and highly contextualised knowledge. In order to demonstrate the appropriateness of each dimension, Specialization and Semantics will now be considered in more detail in turn.

3. SPECIALIZATION

Specialization was the first dimension to be conceptualised within LCT, and as such, is one of the most developed. It is premised on the simple notion that all practices are oriented towards something and are enacted by someone. In this sense, all knowledge practices are said to involve relations to objects and to subjects (Maton, 2014b). An analysis of knowledge claims thus necessitates a need to analytically explore both *epistemic relations* between knowledge and its proclaimed objects of study, and *social relations* between knowledge and its authors or subjects (Maton, 2014b, p. 29). Epistemic relations raise questions of 'what' can be described as knowledge while social relations raise questions of 'who' can be a legitimate knower in any given field.

Specialization builds on Bernstein's (1971, 1973, 1975, 1990) code theory, particularly his concepts of *classification* and *framing*. These two concepts are used in Specialization to reveal

the underlying organising principles of knowledge claims (i.e. the codes driving such claims). LCT expands on these concepts to include 'social relations' as well as epistemic relations, to include not only knowledge, but also 'knowers'. Classification (+/−C) refers to the 'relative strength of boundaries *between* contexts or categories'; while framing (+/−F) refers to the 'locus of control *within* contexts or categories (where stronger framing indicates greater control from above)' (Maton, 2014b, p. 29). LCT extends these concepts by applying them to both epistemic relations and social relations found in practices. For example, if X exhibits strong classification (+C) and strong framing (+F) of epistemic relations and weak classification (–C) and weak framing (–F) of social relations, then it will result in a knowledge code (ER+, SR–). The inverse of this coding will result in a knower code (ER–, SR+). Given LCT's premise that all practices involve both objects and subjects, knowledge practices are always considered in terms of the relative strengths and weaknesses of both epistemic relations and social relations.

Specialization codes conceptualise one dimension of the 'rules of the game' embodied by practices, dispositions and contexts (Maton, 2016, p. 13). The differing strengths and weaknesses of epistemic relations (ER+/–) and social relations (SR+/–) vary independently of one another. This relational dynamic is best presented on a Cartesian plane, where four specialization codes become visible. These codes are summarised by Maton (2016, p. 16) as the following:

- *knowledge codes* (ER+, SR–), where possession of specialized knowledge, principles or procedures concerning specific objects of study is emphasized as the basis of achievement, and the attributes of actors are downplayed;
- *knower codes* (ER–, SR+), where specialized knowledge and objects are downplayed and the attributes of actors are emphasized as measures of achievement, whether viewed as born (e.g. 'natural talent'), cultivated (e.g. 'taste') or social (e.g. feminist standpoint theory);
- *élite codes* (ER+, SR+), where legitimacy is based on both possessing specialist knowledge and being the right kind of knower; and
- *relativist codes* (ER–, SR–), where legitimacy is determined by neither specialist knowledge nor knower attributes – 'anything goes'.

Each code relates to a specific quadrant on the specialization plane, as can be seen in Figure 3.1. Each quadrant or code emphasises a different concern: what you know (knowledge code),

the kind of knower you are (knower code), both (elite code) or neither (relativist code) (Maton, 2016, p. 13).

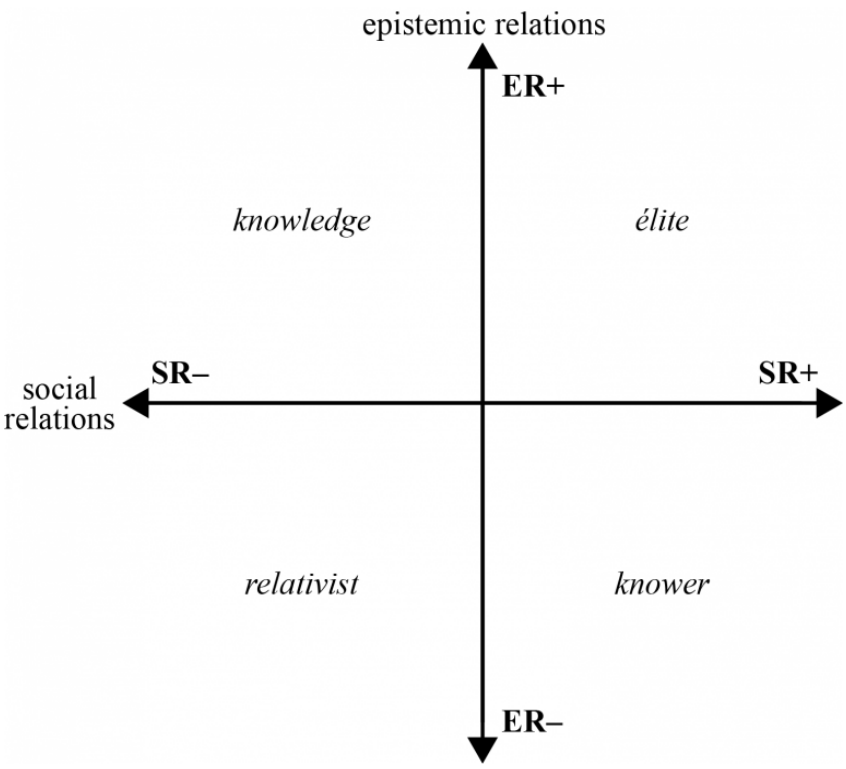

Figure 3.1. The specialization plane (Maton, 2014b, p. 30)

Revealing specialization codes through analysis is important because different fields of practice may legitimise different codes as their basis of achievement and these choices may not always be 'transparent, universal or uncontested' (Maton, 2016, p. 13). Struggles over which code dominates in a field of practice are likely to occur, depending on whether there is a *code match* or a *code clash* among actors. A code match describes a situation in which the field's legitimated code (or basis of achievement) matches that of the actor's – i.e. the relative strengths of their epistemic relations and social relations are similar. A code clash describes a situation where the basis of achievement in a field is prescribed by a code that is not shared by an actor. An example of this is given by Maton (2016, p. 13) who describes how Chinese students brought a knowledge-code disposition to an Australian university context where a knower-code dominated. The code clash resulted in the Chinese students struggling to adapt to the different learning approach (which favoured candidate-centred pedagogy, as opposed to the more teacher-centred approaches common in Chinese education) in their new context due to the disjuncture in specialization codes between their disposition (knowledge code) and the

legitimated practices in the new university context (knower code). Code matches and code clashes are an inevitable part of any social field of practice.

Specialization codes can also change and vary over time, resulting in both *code shifts* and *code drifts*. Code shifts change the 'rules of the game' as they alter the legitimacy of practices (Maton, 2016, p. 13). Therefore, an actor who previously experienced a code match and found success therein will be negatively affected if the code (and therefore the 'rules' governing the basis of achievement in the field) were to change. Code shifts represent a movement from one quadrant on the specialization plane to another quadrant. Code drifts relate to shifts within the codes themselves (i.e. shifts within specific quadrants) through the on-going relational strengthening and weakening of epistemic relations and social relations (Maton, 2016). Code shifts and drifts are a useful way to show change over time and the resultant effects this has on valued practices and kinds of knowers. It has particular relevance for understanding decolonising contexts such as South Africa where practices – particularly those in higher education – are constantly being contested and transformed. They are also useful for understanding the changing nature of practices such as doctoral writing, as new kinds of dissertations and different ways of writing dissertations emerge in the field.

3.1. The 4-K model

The dimension of Specialization offers a further level of delicacy in what is known as the '4–K model'. This model distinguishes two different kinds of relations *within* epistemic relations, as well as two different kinds of relations *within* social relations. When the four kinds of relations are combined, they form a '4-K model' of knowledge practices including 'relations to knowers, knowing, other knowledges and the known' (Maton, 2014b, p. 175). This distinction is shown in Figure 3.2. These are of significance to this study as they provide a more detailed understanding of the effects of different kinds of knowledge practices in doctoral writing.

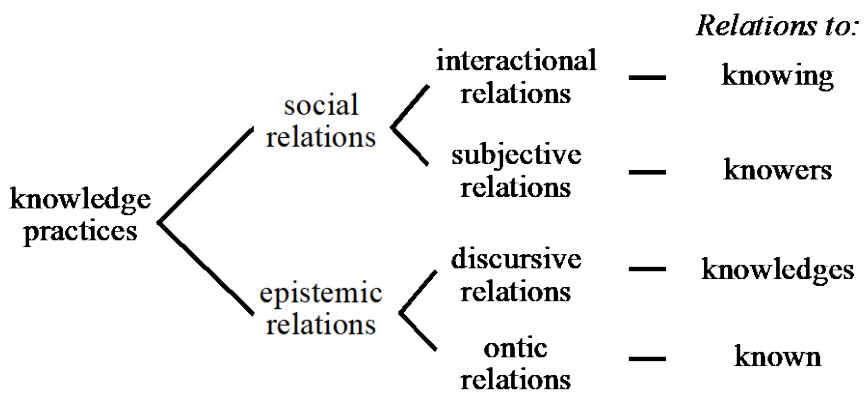

Figure 3.2. The 4-K model of knowledge practices (Maton, 2014b, p. 193)

Starting with epistemic relations, the '4-K model' distinguishes *ontic relations* – between knowledge practices and their objects, and *discursive relations* – between knowledge practices and other knowledge practices. In terms of doctoral writing, ontic relations are strengthened when candidates foreground aspects relating to objects of knowledge – i.e. specific topics, phenomena of study or problem situations – in their writing. By foregrounding ontic relations, practices strongly bound and control what objects of study are considered legitimate or not. Alternatively, when discursive relations are foregrounded, relations between legitimate approaches and other possible approaches are relatively strongly bounded and controlled. In other words, ontic relations control 'what' is considered a legitimate object of study and discursive relations control 'how' one approaches objects of study.

As with specialization codes, this subset of relations also combine in terms of relative strengths of ontic relations and discursive relations to produce a set of four codes, known as *insights* (Maton, 2014b, p. 176). The four kinds of insights, *situational insight, doctrinal insight, purist insight* and *knower/no insight* are demonstrated on the epistemic plane in Figure 3.3.

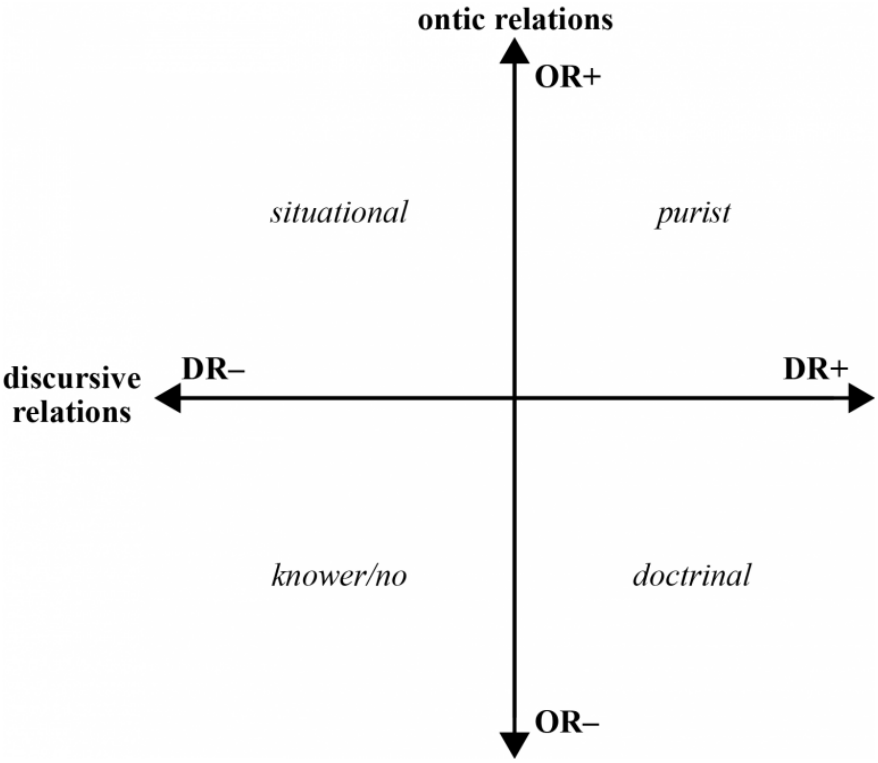

Figure 3.3. The epistemic plane – insights (Maton, 2014b, p. 177)

The four different kinds of insights that emerge are described as follows (Maton, 2014b, p. 176):

- *situational insight* (OR+, DR–), when practices relatively strongly bound and control legitimate objects of study but weakly control the ways in which it is studied;
- *doctrinal insight* (OR–, DR+), when practices relatively strongly bound and control relations between legitimate approaches, but weakly control the object of study;
- *purist insight* (OR+, DR–), when practices relatively strongly bound and control both legitimate objects of study and legitimate approaches;
- *knower/no insight* (OR–, DR–), when practices relatively weakly bound and control legitimate objects of study and approaches.

Analysing the relative strengths and weaknesses of these relations is useful for exploring differences within knowledge codes in more detail. The four insights are explained in more detail below in relation to how they have informed existing research.

Moving to social relations, the '4-K model' further distinguishes *subjective relations* – between knowledge practices and the kinds of actors engaged in them, and *interactional relations* –

between knowledge practices and ways of knowing (Maton, 2014b, p. 184). In terms of doctoral writing, subjective relations are strengthened when candidates foreground aspects relating to the kinds of knowers of phenomena in their writing – i.e. emphasis is placed on knower attributes such as race, gender, age and so forth. By foregrounding subjective relations, practices strongly bound and control which knowers of particular phenomenon are considered legitimate or not. Alternatively, when interactional relations are foregrounded, relations between legitimate ways of knowing and acting are relatively strongly bounded and controlled. In other words, subjective relations control 'who' is considered a legitimate object of study and interactional relations control 'how' one has come to know (typically through interactions with significant others).

As with epistemic relations, when the two sets of social relations combine on a social plane in relative strengths and weaknesses, four different kinds of *gazes* emerge: *social gaze*, *cultivated gaze*, *born gaze* and *blank/trained gaze*. These are demonstrated on the social plane in Figure 3.4.

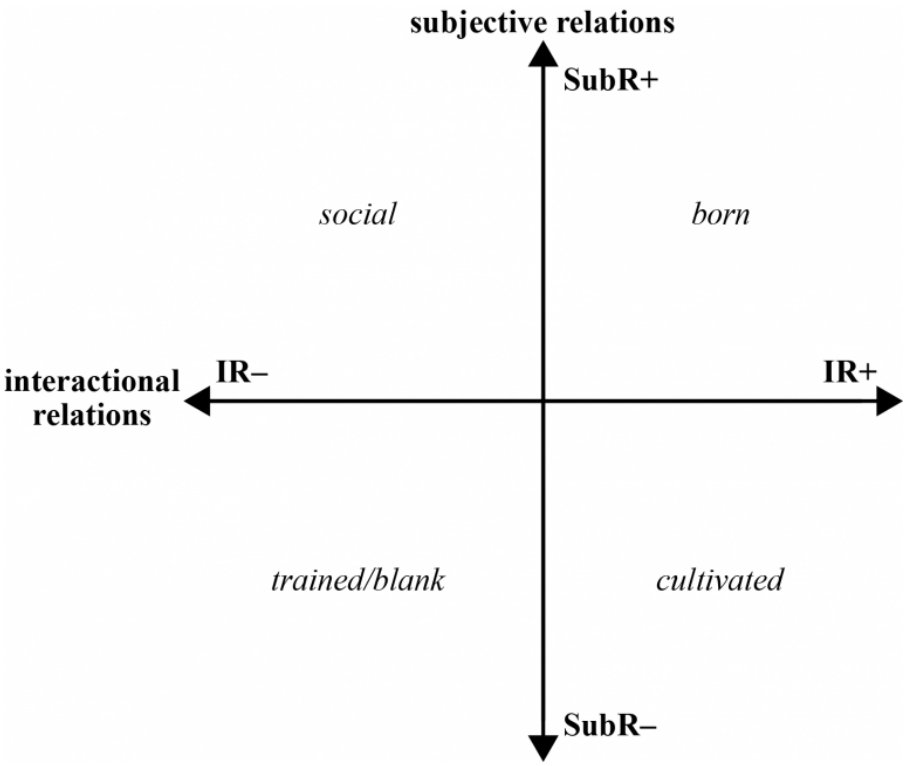

Figure 3.4. The social plane – gazes (Maton, 2014b, p. 186)

The four different kinds of gazes that emerge are described as follows (Maton, 2014b, p. 184):

- *social gaze* (SubR+, IR–) , where legitimacy is determined by who you are, not how you have come to know;
- *cultivated gaze* (SubR–, IR+), where legitimacy is determined by how you know, not who you are;
- *born gaze* (SubR+, IR+), where legitimacy is determined by who you are and how you know;
- *blank/trained gaze* (SubR–, IR–), where both who you are and how you know is downplayed.

Distinguishing between different kinds of gazes reveals how different kinds of knowers gain legitimacy in particular fields and practices. They are therefore useful for analysing social relations in more detail, as explained in more detail below.

3.2. How Specialization has been used in educational research

Specialization has been drawn on to investigate a number of sociology of education concerns in higher education, including academic development and academic literacy, assessment practices, curriculum studies (particularly the transformation of curriculum), and it has been applied to a variety of subject-specific issues. For example, Luckett and Hunma (2014) address the problem of curriculum design in a foundation course for first-generation students in the humanities and social sciences at a South African university. In order to gain an understanding of what kinds of knowledge are privileged in a variety of mainstream courses, the authors use Specialization to understand how knowledge legitimated in the curriculum was aligned in assessment criteria. To this end, the authors were successfully able to uncover the implicit assumptions disciplines make, which can obscure the basis of achievement for novice students. Drawing on the insights revealed by the study, the authors could then design a foundation course that adopted the same specialization code as the mainstream course – in other words, they could create a ‘code match’ between the two courses. As a result, the foundation course could be designed in such a way as to induct first-generation candidates into disciplinary ways of thinking that would be rewarded when integrating back into mainstream humanities/social science subjects.

Specialization has also been successfully used to look at feedback practices on student writing in universities. For example, van Heerden, Clarence and Bharuthram (2017) use an analysis of specialization codes to unpack the pedagogical purpose of feedback on student writing in undergraduate English literature and law. Using Specialization, the authors show that feedback on student writing not only provides guidance on what knowledge is valued in particular subjects, but also provides crucial feedback on what kinds of features the knowers within those subjects should espouse (van Heerden et al., 2017, p. 971). The authors describe how they use the understandings generated from a Specialization analysis to train postgraduate tutors (who provide the feedback on undergraduate writing) to identify and understand the specialization codes of their discipline. Understanding these codes, they argue, enhances the tutors' developmental feedback practices in that they can facilitate the development of a desired disciplinary gaze and disposition more explicitly if they first understand the 'rules of the game'. This study is an example of one of the many ways in which Specialization is being used in higher education to open up new spaces for pedagogic development to facilitate access to powerful knowledge.

The 4-K model has been used to look at a number of issues in higher education. For example, Wolff (2017) uses *insights* to better understand the different kinds of epistemic relations (i.e. differences between 'the what' and 'the how') students are required to master for effective problem-solving in engineering and the implications this has on pedagogy. Studies have also used the 4-K model to look at student writing. For example, Martin (2016) considers how students enact different kinds of *gazes* when writing about famous musicians in the field. The study shows how some students legitimated particular musicians by foregrounding how their iconic techniques were as a result of their own musicality (i.e. based on the musician's natural 'ear' for music – a *social gaze*), while others foregrounded the development of techniques in relation to the process of musicianship (i.e. based on the musician's immersion in a particular 'way of doing' – a *cultivated gaze*). Similarly, Maton (2009) analysed secondary school English literature essays to distinguish the knowledge features which differentiated high and low-achieving essays. In this study, Maton shows how the enactment of a *cultivated gaze,* which could 'embrace the more abstract principles of literary understanding' (2009, p. 52) was more highly rewarded than essays which made claims based on who the author was as a student – i.e. disconnected from the broader literary field which they were required to reflect in their writing (in effect, a *blank gaze*).

Very few studies have used Specialization to analyse doctoral writing. One exception, however, demonstrates the dimension's utility for understanding the knowledge work undertaken in doctoral writing. As described in Chapter 2, Ravelli, Paltridge and Starfield (2014) use Specialization to make sense of the variation between a sample of exemplary creative and performing arts doctoral dissertations from Australian universities. They show how linguistic understandings of the macrostructures found in dissertations can be enhanced using Specialization's characterisation of knowledge codes and knower codes. They also use Specialization codes to show how different types of knowledge are valued equally in creative and performing arts (i.e. dissertations that foreground either epistemic relations or social relations are considered legitimate), accounting for why there is (and can be) so much variation across dissertations in their sample. These findings reveal important insights for doctoral writing and raise further questions of knowledge-building which the present study addresses and builds on.

3.3. How Specialization will be used to address the research questions

Specialization is considered an important analytical tool for this study because it enables the knowledge practices enacted in doctoral writing to be analysed as an object in their own right. This enables a novel approach to the study of doctoral writing in that it moves away from the more common language-focused traditions. Through an analysis of the epistemic relations and social relations of the knowledge practices enacted in writing, Specialization goes beyond the surface features of knowledge to reveal their organising principles – as such, it reveals what kind of knowledge is enacted in dissertations and to what effect. An analysis of this kind provides a more reflexive way of analysing and understanding doctoral writing than existing classificatory systems that categorise different 'types' or genres of disciplinary writing according to textual features, which has previously been argued to be limited in accounting for the complex knowledge work undertaken in dissertations. As such, a Specialization analysis, including the more detailed analysis afforded by the 4-K model, is argued to be more effectively able to engage with, and account for, the variability of doctoral writing. Specialization enables a deeper understanding of *why* knowledge practices manifest in particular ways and to what purpose, without becoming lost in, or overwhelmed by, a seemingly endless list of varying empirical features between dissertations. As such, it can reveal generalising principles that can account for the choices candidates make when writing their dissertations – insights that are key for developing pedagogy.

4. SEMANTICS

Semantics is a dimension of LCT that is used to explore practices in terms of their *semantic structures*, whose organising principles are given by *semantic codes* (Maton, 2016). These semantic codes comprise one part of LCT's legitimation codes and refer to the relative strengths of *semantic gravity* and *semantic density* – two key concepts in Semantics. Semantic gravity (SG) refers to the degree to which meaning relates to the context in which it is found. Stronger semantic gravity relates to high levels of context-dependency while weaker semantic gravity relates to meanings that are relatively context-independent. Semantic density (SD) refers to the complexity of meanings. Stronger semantic density relates to practices that exhibit high complexity through the condensing of many meanings into instances of practice, while weaker semantic density refers to practices with relatively less complexity where fewer meanings are condensed. LCT also analytically distinguishes between 'epistemic-semantic gravity' (ESG) and 'epistemic-semantic density' (ESD), on the one hand, and 'axiological-semantic gravity' (ASG) and 'axiological-semantic density' (ASD) on the other (Maton & Doran, 2017b). The former (ESG, ESD) refers to varying degrees of context dependency and complexity relating to formal definitions, specialist knowledge and empirical descriptions, while the latter (ASG, ASD) refers to axiological meanings associated with affective, aesthetic, ethical, political or moral stances (Maton, 2014b, pp. 153–170). Only epistemic meanings are considered in this study.

Epistemic-semantic gravity is used to conceptualise practices in terms of the degree to which their meaning relates to the context and is reflected as relatively stronger or weaker along a continuum. Stronger epistemic-semantic gravity (ESG+) reflects instances of practices where 'meaning is more closely related to its social or symbolic context or acquisition or use' and weaker epistemic-semantic gravity (ESG–) reflects instances where meaning is less dependent on its context (Maton, 2014b, p. 110). In terms of doctoral writing, this is evident in empirical descriptions that are dependent on the context of the study for its meaning (ESG+), versus a discussion of theoretical ideas which are not bound to any one particular research context (ESG–). Processes of strengthening and weakening are also important to consider. Strengthening epistemic-semantic gravity (ESG↑) denotes to the movement from abstract or generalised ideas towards concrete cases, while weakening epistemic-semantic gravity (ESG↓)

refers to instances where there is a movement from concrete particulars to more abstract and generalised meanings.

Epistemic-semantic density explores complexity of practices by determining the *relationality*, varying levels of *differentiation* and *resonance* of meanings (Maton & Doran, 2017b, p. 57). Relationality refers to the degree to which meanings are related to other meanings – the more relations, the greater the strength of epistemic-semantic density because, as relations are added, so too is the differentiation between those meanings. In other words, the more relations that are added, 'the more specific, fine-tuned and precise the referents of that meaning' become (Maton & Doran, 2017b, p. 57). In addition, the more relations meanings have, the more potential for that meaning to resonate out to other related meanings – i.e. as relations are added, the meaning becomes part of a bigger 'constellation' of associated meanings, which again acts to strengthen the epistemic-semantic density.

Epistemic-semantic density therefore reveals varying degrees of complexity, referred to as stronger epistemic-semantic density (ESD+) and weaker epistemic-semantic density (ESD–). In doctoral writing, for example, the meanings created from a description of a participant's viewpoint will have relatively weaker ESD to that of a discussion which integrates theoretical concepts into the writing. Epistemic-semantic density can also be strengthened and weakened over time. Strengthening epistemic-semantic density (ESD↑) relates to the process wherein practices are made more complex by the additional association of meanings (i.e. adding of relations between meanings). Weakening epistemic-semantic density (ESD↓) relates to the process whereby practices or words are stripped of relations and therefore become simpler, for example, by 'unpacking' or explaining a complex theoretical concept into more simple terms.

Importantly, Maton (2016, p. 15) emphasises that the relative strength of epistemic-semantic density characterising a practice is not intrinsic to the practice itself but relies rather on the *semantic structure* within which it is located. To illustrate this point, Maton uses the example of the concept 'gold'. When the term 'gold' is used in everyday, informal contexts, it denotes a yellowy metal that is valuable and is usually moulded into jewellery or used in dentistry. In this context, the meaning of 'gold' is relatively straightforward and does not resonate out to many other constellations of meaning. When the same term, 'gold', is considered in the field of chemistry however, its semantic structure will change significantly. In this structure 'gold'

is related to an atomic number, atomic weight, electron configuration, etc., many of which resonate out to further compositional structures, taxonomies and explanatory processes (Maton, 2016, p. 15). The structure therefore imbues 'technical' meaning. In this way, epistemic-semantic density traces a continuum of strengths.

All practices are characterised by *both* epistemic-semantic gravity and epistemic-semantic density. This study considers these two concepts individually, to analyse issues relating to context-dependence and complexity of meanings. While the concepts can be combined to form a set of 'semantic codes', which can be represented on a 'semantic plane' (similar to Specialization), this form of representation is not used in the current study (see Maton (2016) for an explanation of how the concepts can be combined). Rather, 'semantic profiles' are used to illustrate analyses. These are now described.

4.1. Semantic profiles and knowledge building

Semantic profiles track the shifts in epistemic-semantic gravity and epistemic-semantic density over time. Such shifts are represented on an axis, such as can be seen in Figure 3.5.

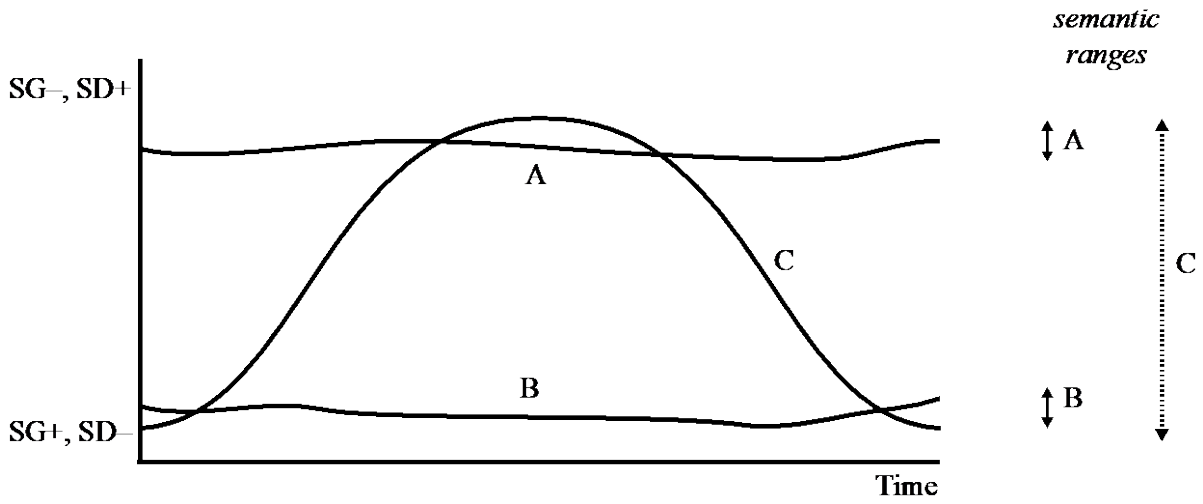

Figure 3.5. Semantic profile (Maton, 2013, p. 13)

Semantic profiles are important to consider in analyses as they show how practices are constructed over time, in various different ways. Figure 3.5 illustrates three different ways that knowledge is enacted over time: a *high semantic flatline* (A), a *low semantic flatline* (B) and a

semantic wave (C). Profile A indicates that the practices stay within a weaker epistemic-semantic gravity (ESG–) and stronger epistemic-semantic density (ESD+) range over time. In terms of doctoral discourse, this would mean that knowledge is maintained at a generalizable and abstract and/or technical level. Profile B indicates that practices stay at a relatively stronger epistemic-semantic gravity (ESG+) and weaker epistemic-semantic density (ESD–) range. In doctoral discourse, this could refer to instances of concrete, context-dependent knowledge (such as a summarising description of data) using everyday simple language. Profile C indicates a 'semantic wave' that is able to move between the semantic ranges of profile A and B. In so doing, practices reflect movement from context-dependent and simple knowledge practices to that of generalised and technical/abstract knowledge. In doctoral writing this could indicate moves between highly abstract and technical concepts that can be 'unpacked' over time to more concrete and simple terms, and then 'repacked' back to more generalizable and abstract concepts.

Semantic waves (such as profile C) have been shown in research to be one indicator of cumulative knowledge-building (Maton, 2013). The specific shape these profiles take, however, can differ. For example, it does not matter where the profile begins and ends – the important feature is that the practices move across the semantic range over time. Semantic profiles are also not necessarily the 'best' kind of profile to enact – it depends on the context and specific needs one encounters. For example, scientific abstracts are often written in an abstract and dense manner – i.e. they form a high semantic flatline (Maton & Doran, 2017b, p. 72). Given the genre of this scholarly writing, this shape of profile is appropriate. Teaching science to high school learners in a similar (abstract and dense) way, however, would be less appropriate and successful. In this context, scientific terms and concepts would ideally need to be unpacked and explained and then re-packed for students to enable successful learning – i.e. pedagogical practices would need to reflect a semantic wave.

4.2. How Semantics has been used in educational research

Semantics is proving to be an increasingly popular tool in educational research drawing on LCT. It has been used extensively in secondary-school classroom research in two Australian Research Council (ARC) Discovery Projects in NSW, Australia (Macnaught, Maton, Martin, & Matruglio, 2013; Martin & Maton, 2013; Maton, 2014a), as well as in a number of higher education contexts internationally. It is proving to be a particularly valuable tool for looking at

pedagogic practice and curricula (both at the higher and secondary level of education) that encourage and enable cumulative learning (Blackie, 2014; Clarence, 2016; Maton, 2009, 2013). For example, Clarence (2016) describes how using the concepts of semantic gravity and semantic density to unpack classroom pedagogy to political science lecturers enabled a deeper understanding of how different subject areas construct knowledge in different ways. For example, she shows how a central proponent in constructing arguments in political science is to apply complex theoretical concepts to varying socio-historical contexts. There is thus a strong focus on students being able to work between theory and application. Using Semantics, the author engaged in conversations with lecturers about what kinds of concepts and applications are valued in their courses, as well as how to structure their pedagogic practice in ways which made these particular kinds of knowledge practices explicit to students.

Semantics has also been used to look at how assessments can be better designed to encourage cumulative learning (Gibbons, 2018; Maton, 2014b; Rootman-le Grange & Blackie, 2018; Shalem & Slonimsky, 2010). For example, Maton (2009, p. 47) uses the concept of semantic gravity to analyse case-based learning assessments from an instructional designers' course in Australia. He explains how despite the fact that the assessment questions were designed to encourage students to generate generalizable principles that could be transferred across case studies, most of the students could only construct knowledge which was bound to the context-specific case study in question. Maton (2009, p. 51) argues that due to the constructivist approach of the authentic learning environment, which privileged candidates' experiences, many of them struggled to construct knowledge beyond the immediate pedagogical context. This was seen to prevent cumulative learning.

Studies have also found that academic written assessments (at school and university level) which enact a semantic wave are more highly valued (Maton, 2009, 2014b) and that semantic waves can be used as a useful pedagogical tool for teaching students how to write. For example, Ingold and O'Sullivan (2017) explain how they have used semantic waves to teach students how to move from theory to real-world contexts through a number of writing exercises. This, they argue, is a particularly useful approach when teaching reflective writing, as students often struggle to make meaningful connections between their personal experience and academic theory. The authors argue that making the semantic wave structure explicit to students can help scaffold their learning process, as it makes the markers of success of reflective writing more explicit and accessible.

Research using Semantics thus considers key questions of how knowledge is structured over time and how that knowledge is enacted, either through pedagogy, curricula or through written discourse. The utility of this analytic tool, particularly with regards to student writing, makes it an appropriate choice for addressing the research questions at hand.

4.3. How Semantics will be used to address the research questions

While Semantics has been used to look at aspects of student writing and pedagogy, it has not yet been applied to an extensive study of doctoral writing specifically. However, a number of Semantics principles revealed in existing research suggest that its application in this study will be useful. For example, studies have shown that two key variables for building knowledge relate to issues of context-dependence of meanings as well as complexity of meanings. As such, identifying discursive strategies in doctoral writing that negotiate these two variables will be useful for understanding how candidates construct knowledge about their objects of study in exemplary ways.

5. CONCLUSION

This chapter has outlined the conceptual 'toolkit' of LCT which is enacted in this study. It has briefly described the overall framework of LCT, detailing its emergence in the field as well as its conceptual foundations. The chapter also provided a discussion of Specialization and Semantics, the two dimensions which are enacted in the analysis of doctoral writing undertaken in the study. This discussion, when considered in relation to the description of how the dimensions have been used in previous research, highlights the potential of Specialization and Semantics for understanding the knowledge work in doctoral writing more effectively than existing approaches. To contextualise this more abstract overview of the conceptual framework of the study, the next chapter, Methodology, explains how concepts from Specialization and Semantics were understood and enacted in the study.

CHAPTER 4
METHODOLOGY

1. INTRODUCTION

The previous chapters have shown that there is a need to approach doctoral writing from a knowledge perspective, in order to uncover the knowledge practices enacted in the writing of dissertations. Chapter 2 (Literature Review) revealed how most existing studies talk *about* writing experiences and pedagogical interventions but rarely consider the features of writing itself with regards to knowledge. It also argued that the few linguistics studies that do analyse doctoral writing provide an important starting point for understanding what successful linguistic features look like in dissertations. These analyses, however, often lack the means of accounting for why candidates construct knowledge in particular ways – an important insight for pedagogy. There is thus a pedagogic and intellectual need for conceptual tools that can see and analyse knowledge practices in writing. Such tools provide a first step to gaining a deeper understanding of how knowledge is enacted in writing – a necessary starting point before effective pedagogy can be developed. This chapter describes the approach adopted in this thesis to create such tools.

The chapter provides a detailed discussion of how the conceptual tools for analysing knowledge in doctoral writing were created. It explains how concepts from the dimensions of Specialization and Semantics from Legitimation Code Theory (LCT) were drawn on as a starting point for understanding how knowledge practices are enacted in dissertations. Using the understanding afforded by these concepts, the chapter describes how specific tools for analysing knowledge in doctoral writing at both a macro and micro level could then be developed. The chapter provides a detailed description of the methodological approach that made the development of these tools possible, as well as the data that was used in their development. Ethical concerns are addressed and the different stages of analysis are described in detailed.

2. AIMS OF THE RESEARCH

This research creates conceptual tools for analysing knowledge practices in doctoral dissertations. In order to achieve this aim, the research addresses three principal questions:

1. What kinds of knowledge practices create a successful doctoral dissertation?
2. How are exemplary knowledge practices enacted in writing?
3. How can conceptual tools analyse exemplary knowledge practices?

By addressing these questions, the exploratory study offers a new way of conceptualising and analysing dissertations. It does this by creating conceptual tools for understanding knowledge practices, as well as providing illustrative analyses of how the tools can be enacted on data, in order to establish a basis for pedagogic development. The conceptual and methodological framework informing the study is now described.

3. RESEARCH DESIGN

This section outlines the methodological approach the study adopted in order to address the research questions. It also explains how working within a qualitative research paradigm enabled the right conditions in which to carry out the research.

3.1. Methodological approach

The study enacts LCT as an explanatory framework for understanding knowledge practices in doctoral writing. As discussed in Chapter 3 (Theoretical Framework), LCT was a part of social realism but takes its ontological positioning largely from critical realism and Karl Popper (Maton, 2014b). It views knowledge as both *real* and *social*, acknowledging the rational objectivity that knowledge does exist while at the same time recognising that knowledge is a social phenomenon that is fallible rather than absolute or relative (Maton & Moore, 2010). LCT is motivated by social justice issues and as such, adopts a critical stance in research to uncover the interests at play in any given field. In terms of doctoral writing, the study at hand treats knowledge in writing as both real – i.e. as existing outside of, and independently of, any one doctoral candidate – and as social – i.e. that the knowledge enacted in each doctoral dissertation

is socio-culturally situated within a specific disciplinary context and that its meaning-making potential is achieved by social means. It adopts a critical stance in that it seeks to uncover what kind of knowledge is privileged in different dissertations and how it is constructed. In doing so, the markers of success of doctoral writing can be make more explicit – an important implication for pedagogy which seeks to open access to more diverse candidates.

In light of the object of study, namely illuminating the knowledge practices in doctoral writing and how they are enacted, this ontological positioning is important. Such a positioning can complement existing linguistic approaches to doctoral writing that reveal important insights about language features of texts. Analysing the knowledge practices constructed through language affords a further understanding of the socio-cultural nature of writing: it is able to show the sociality of the language in terms of how it builds different kinds of knowledge in different ways and the effect this has on the meanings being created. LCT therefore provides the field with a knowledge perspective that can complement other approaches. Indeed, studies have shown the value of using LCT alongside linguistic approaches (particularly systemic functional linguistics) as well as with academic literacies research (Clarence & McKenna, 2017; Freebody, Maton, & Martin, 2008; Macnaught et al., 2013; Martin, 2013; Martin & Maton, 2013; Martin et al., 2010).

3.2. Qualitative research paradigm

As described in Chapter 2 (Literature review), not many studies look at the knowledge practices enacted in doctoral dissertations. As such, the current study adopts an exploratory purpose in that it seeks to 'explore or open up new areas of social inquiry' (Walter, 2013, p. 9) through the creation of conceptual tools for analysing knowledge practices in doctoral writing. The exploratory goals of the study were best suited to a qualitative research paradigm, which affords a focus on meaning-making. Methods and analyses undertaken in qualitative research are designed to uncover the 'meanings, perceptions and understandings' inherent in social phenomena (Walter, 2013, p. 20). Given that the data in this study are doctoral dissertations, working within a qualitative research paradigm was more suitable than a quantitative paradigm which typically foregrounds calculations of numerical data. Qualitative research, in contrast, typically uses methods that 'concentrate on drawing on the detail and social meaning of social phenomena' (Walter, 2013, p. 21) in rich detail. Furthermore, the qualitative paradigm is adaptable to a variety of different methods; meaning that the choice of methods can be designed

to best fit the aims of the study rather than being prescribed by the paradigm itself.

This study draws on the analytical and conceptual framework afforded by LCT. The research uses LCT to explore new ways in which doctoral writing can be conceptualised through the development of qualitative tools for analysing knowledge practices. It is therefore not intended to provide a comprehensive account of all dissertations. Rather, in order to meet the aims of the study, the analyses undertaken in the study provide illustrative examples of how principles from LCT can be used to develop tools to analyse exemplary knowledge practices in dissertations in order to create a foundation for pedagogic development. The data used to develop such tools are now described.

4. DATA SAMPLE

This section describes the data used in the study. It offers an overview of the context of the study as well as the sample that was selected. The size of the sample is explained and justified and the ethical implications of the data are discussed.

4.1. Context of study

The research includes successfully examined doctoral dissertations from (primarily) four research-intensive universities in South Africa[5]. South Africa presents a particularly interesting context in which to carry out this research, given the unequal educational history of the country. Since democracy in 1994, higher education has undergone significant massification and diversification as access to previously excluded candidates opened up. In a seminal text on the transformation of higher education in South Africa, Wally Morrow (2009) distinguishes between 'formal access' (i.e. registering a student at a university) and 'epistemological access' (p.77). The latter form of access, which he defines as 'learning how to become a successful participant in an academic practice' (p. 78), is of particular significance to this research. In order for students to succeed in higher education, they must achieve 'epistemological access'

[5] Research-intensive universities are the more traditional universities offering Bachelor's to doctoral degrees and which place strong emphasis on postgraduate and research activities. Different to comprehensive universities and universities of technology which adopt a stronger focus on undergraduate qualifications and vocational-focused diplomas (Council on Higher Education, 2016, p. 91).

to the academic practices of their discipline – in effect, to access knowledge. One way of ensuring this access, is to make academic practices explicit and demonstrable to students. In the South African context, the need to ensure epistemological access is heightened given that a significant number of first-generation or previously disadvantaged candidates are now entering the system who require extra support (Council on Higher Education, 2016; National Planning Commission, 2012). There is thus a growing need to make academic practices more explicit so that these learners can thrive in higher education environments. The creation of tools for analysing knowledge in dissertations – for the purpose of developing doctoral writing pedagogy – is therefore a timely and significant step for ensuring 'epistemological access' in this context.

In addition to the heightened pressure on academics to accommodate a greater number and more diverse cohort of candidates, South African academia is also facing an aging professorial population (Cloete, Mouton, & Sheppard, 2015; Council on Higher Education, 2016; National Planning Commission, 2012). There is therefore a need to not only make elusive practices explicit to candidates but also to new supervisors entering the field who are expected to teach candidates how to write their dissertations. These historical and situational pressures make the choice of using South African data an interesting and appropriate case study to develop conceptual tools.

The choice of South African universities included in the study was informed by purposive sampling, whereby specific institutions and informants that were judged to possess a particular characteristic of interest to the researcher were targeted (Cohen et al., 2011). Given that research-intensive universities have a strong focus on research, these institutions were deemed the most likely to produce top achieving doctoral candidates and subsequently high quality dissertations. It was also assumed that such institutions would attract top academics who would have been exposed to a wide range of doctoral research, either through their own supervising, thesis examining or involvement in the scholarly community. They were thus considered to be the best judges of what constituted an 'exemplary' dissertation, as described in the next section.

4.2. Sample selection

Dissertations collected for the study come from what is known as the 'social sciences' and 'humanities'. This decision was informed by the aim of creating appropriate tools for

discourse-based doctoral dissertations. Different semiotic systems (such as mathematical equations, numbers and images) typical of dissertations in the natural sciences would require a different set of tools to understand the knowledge being enacted in the writing. Such a focus is beyond the aims of the study, as well as being beyond my level of expertise in mathematics and science. Developing tools for discourse-based dissertations thus provides a starting point to see how the knowledge work in doctoral writing can be better understood.

In order to create tools with pedagogic potential, I wanted to work with particularly good dissertations as these would, in theory, enact exemplary knowledge practices. Due to doctoral research not receiving an assessment grade (i.e. there is no easily quantifiable way to distinguish high achieving dissertations to lower achieving ones), I decided to approach select experienced academics for recommendations. As such, reputational case sampling, a sub-type of purposive sampling, best describes the data gathering method as dissertations were 'selected by key informants, on the recommendation of others or because the researcher [was] aware of their characteristics' (Cohen et al., 2011). Such an approach to gathering exemplary dissertations has been used in other studies of doctoral theses, such as that conducted by Paltridge, Starfield, Ravelli, and Tuckwell (2012). The 'key informants' included Heads of Departments from the selected subject areas, as well as a selection of professors. Professors who held research or funding chairs were specifically targeted, given the assumption that these positions of authority gives credibility to the academics' disciplinary knowledge and experience in the field.

The key informants were contacted via their publicly available university emails. The initial email explained the aims of the research and asked the individual to recommend any exemplary dissertation(s) which they had either supervised or examined. No date limitation was given. If no response was received, two follow-up email reminders were issued at four-week intervals. In total, 71 academics were contacted. Of this cohort, 24 issued responses, and of those, 17 gave recommendations.

In total, 25 doctoral dissertations were included in the study. This generated a considerable data set of approximately two million words. The breakdown of dissertations according to subject area and reference number used in the thesis is provided in Table 4.1. All but one dissertation come from traditional research-intensive universities in South Africa; however, all were recommended by academics based at one of the four targeted research-intensive

universities. The sample comprises four dissertations from Rhodes University, ten dissertations from the University of Cape Town, three from Stellenbosch University, one from the University of the Western Cape, and seven from the University of the Witwatersrand.

Table 4.1. The sample of dissertations

REF. NO.	SUBJECT
1	History
2	History
3	Psychology
4	Psychology
5	Anthropology
6	Political studies
7	Sociology
8	African studies
9	Anthropology
10	Anthropology
11	English literature
12	English literature
13	English literature
14	Political studies
15	Sociology
16	Sociology
17	Anthropology
18	Archaeology
19	English literature
20	History
21	History
22	Political studies
23	Psychology
24	Psychology
25	Sociology

Reference numbers (e.g. 'Dissertation 1') were allocated to the dissertations in the sample primarily as an organisation system. The use of a more detached referencing system was also intended to create distance between individual authors, institutions and subject areas in the research, to enable a focus on just the written product (i.e. the dissertation itself).

For triangulation purposes, data also included candidate examiner reports. These were used to confirm the exemplary status of the dissertations by providing a second perspective to that of the academic who made the recommendation. [6]

4.3. Sample size

A selection of 25 dissertations – or two million words – is argued to be an appropriate size for meeting the aims of the research. Given the exploratory nature of the research, the sample provides a good breadth of different disciplines as well as including enough dissertations within the same subject areas to reveal intra-disciplinary variation. Furthermore, the sample size provided an appropriate amount of data for conducting detailed analysis at both macro and micro levels while remaining practically manageable. The sample is not intended to be representative of all doctoral dissertations in the 'humanities' and 'social sciences' in all South African universities. Working with such a sample is not necessary for the goals of the research and it would be beyond the scope of an individual doctoral study.

4.4. Ethical considerations

Ethical considerations for any piece of research considers three main issues relating to research practice: risk (both to the participants and the researcher her/himself), benefit and consent (The National Health and Medical Research Council, The Australian Research Council, & The Australian Vice-Chancellor's Committee, 2015). Due diligence was taken in this study to ensure that all ethical concerns were addressed. The doctoral dissertations that form the sample are part of the public domain: they are freely accessible online via their institutional repositories. Given that the universities' repositories are open access, with the explicit intention of the resources being available for use by other researchers (see, for example,

[6] Apart from providing triangulation for the quality of the sample, the examiner reports were not used in the analysis and development of conceptual tools. The generic nature of the feedback in the reports was insufficiently detailed for providing useful insights for analysing knowledge practices.

http://open.uct.ac.za/about.html), the University of Sydney Human Ethics Committee (Protocol no: 2017/422) deemed the research to not require ethical approval, as it was not classified as human research.

Further ethical clearance was sought at a later point in the study to use examiner reports. This was granted by the University of Sydney Human Ethics Committee (Protocol no: 2017/897). The ethics application process included the approval of a 'participant information sheet' outlining the research aims and an explanation of how the examiner reports would be used in the study, as well as a 'participant consent form' which candidates were asked to sign and return to provide permission for the reports to be included in the study.

5. DATA COLLECTION METHODS

Data was gathered in two stages. First, dissertations were gathered and second, examiner reports were collected.

5.1. Gathering the dissertations

Once recommendations had been gathered from key informants, I searched and downloaded the dissertations via the respective universities' online research repositories. These repositories are open access, affording access to PDF copies of the dissertations. The PDF copies were saved onto my personal MacBook.

5.2. Gathering examiner reports

Examiner reports were collected directly from the relevant candidates[7], who were mostly contacted via their university emails (most had stayed within academia). All email addresses were collected from the public domain, mostly from university websites or through a Google search. Four candidates were not contacted: two because their email address could not be obtained and two because the candidates are deceased. The initial email to candidates explained

[7] Although all the authors of the dissertations have graduated and as such, are no longer 'candidates', the label of 'candidate' has been intentionally used in order to avoid, as far as possible, confusion between 'author of dissertation' (i.e. candidate) and 'the author' of the study (i.e. myself, the researcher).

the aims of the research and requested a copy of their examiner reports in unidentifiable form. Candidates were asked to sign and return a consent form in order for their reports to be included in the study. Of the 21 candidates contacted, 11 responded and 10 supplied their examiner reports. The candidate who did not supply her reports stated that she had not received them from her university and had never seen the need to do so.

6. DATA ANALYSIS

Qualitative analysis methods using LCT involves iterative movements between theory and data (Maton & Chen, 2016). This affords a theoretical understanding without losing touch with the empirical features of the object of study at hand. Prior to data analysis, I immersed myself in theoretical knowledge of LCT by reading widely to understand the conceptual tools as well as learn how they had been used in other educational research. My learning of LCT was greatly enhanced by a weekly LCT data group ('S-Club') at the University of Sydney, where I learned how others in my cohort were using similar concepts in their research. These weekly meetings also afforded time to practise using the concepts on data.

Once I had gained proficiency in LCT, particularly in terms of understanding what the different dimensions afforded, I could then turn to the data. The first stage of the analysis therefore involved an empirical thematic analysis of the sample of dissertations. This was followed by a return to theory – Specialization in particular – for the second stage of analysis, in order to reveal generalizable strategies candidates use to demonstrate their knowledge in different parts of the dissertation. The third stage of analysis drew on Semantics to understand how the different kinds of knowledge (revealed in the Specialization analysis) are enacted in practice. These three stages of analysis are now described in turn.

6.1. Stage 1: Empirical thematic analysis

The first stage of analysis involved conducting an empirical thematic analysis to address the first question of what makes a successful doctoral dissertation. Drawing on policy definitions of a doctorate and a selection of thesis-writing guidebooks, the sample of dissertations was analysed and described according to their empirical features. In an attempt to create some kind of system of analysis, two different attempts were made at characterising the dissertations. The

first attempt was informed by existing literature, which distinguishes between three disciplinary knowledge categories of ‘science’, ‘social science’ or ‘humanities’ (Parry, 1998). This resulted in two broad groups of dissertations (science dissertations were not included in the sample). To understand the differences between the ‘social science’ and ‘humanities’ groups, the dissertations were described and characterised according to their chapter structures and in terms of the parts or components they included (i.e. whether they included a literature review, a methodology and so forth). This classificatory system was quickly abandoned when the analysis revealed significant overlap between the two groups as well as distinct differences within each group.

In a second attempt at conducting an empirical thematic analysis, I divided the dissertations into subject groups. Once again, the sample was described in terms of chapter structures and common components. I also made notes of more subtle features within the texts, such as the labels candidates use for the different parts of the thesis, whether they have a subjective presence in the writing or if they remain objective and detached, whether they provide detailed explanation of the theory or method used or if this is mentioned in more general terms, and so forth. This method provided a more effective way to characterise the dissertations; however, the immense variation found within subjects across the sample prevented any kind of definitive pattern that could justify the use of subjects as a way to distinguish between, and account for, the differences in writing. As such, this classificatory system was also abandoned.

In order to move beyond common existing classificatory systems for doctoral writing, I went back to the definition of the doctorate in South African higher education policy to organise the thematic analysis of the dissertations. This involved considering the criteria for the degree and identifying the core attributes that all dissertations need to demonstrate in order to meet the requirements. In doing so, I could then conduct ‘organisation coding’ of the thematic analysis, which essentially involved arranging themes into new classificatory groups that were not tied to any common-sense understandings of doctoral writing. These groups identify five ‘core components’ that all dissertations need to include: establishing a rationale, explaining the phenomena, explaining how the phenomena were studied, constructing findings, and demonstrating an original contribution to knowledge. The process of how this schema for doctoral writing was created is explained at length in Chapter 5.

6.2. Stage 2: Specialization analysis

The empirical thematic analysis conducted in Stage 1 revealed that all dissertations include five common core components. In order to make sense of the empirical variation in how candidates go about putting these components together – an important concern for pedagogy – a return to theory was necessary. The second stage of the analysis therefore involved analytic coding using concepts from Specialization. This provided a first step to addressing the first research question, *What kinds of knowledge practices create a successful doctorate?*

In the first instance, the analytical coding involved understanding how the concepts of *epistemic relations* and *social relations* could be used to reveal the bases of knowledge practices in each component. As explained in Chapter 3 (Theoretical Framework), all knowledge practices involve varying strengths of both epistemic relations and social relations. Drawing on my knowledge of Specialization, I immersed myself in the data and started to distinguish between different kinds of relations in the thematic categories identified in Stage 1 of the analysis. I made notes of any instances where candidates foregrounded epistemic relations by emphasising their object of study or the methods used in the research, or when social relations were foregrounded by emphasising personal attributes of different knowers (either of themselves as researchers or in terms of other knowers in the field). I discussed and interrogated these characterisations, which were supported with as many examples as I could find, with my supervisory team during each fortnightly meeting until we were satisfied that they provided a fair representation of the data. The next step involved collating and formalising these interpretations of epistemic relations (ER) and social relations (SR) into a 'translation device'.

A translation device is a tool which helps bridge the 'discursive gap' (Bernstein, 2000, p. 209) between theory and data. It provides a means for traversing the gap by creating an explicit intermediary dialogue between theoretical concepts and empirical data. Translation devices, such as the ones presented here, are always developed through engagement with the specificities of an object of study – i.e. each device is specifically designed to account for the particular empirical forms emerging in the problem-situation (Maton & Chen, 2016, p. 32). The strength of using a translation device in qualitative research is that it is able to make the basis of the claims made in the analysis more explicit, enabling greater analytical transparency

(Bernstein, 2000; Maton & Chen, 2016). It also allows for a consistent analysis to be conducted across different texts or sections of texts.

The translation device created for the analytic coding of epistemic relations and social relations is presented in Table 4.2. Each concept is defined theoretically and is then described in terms of how it manifests in the data. An example from the data is provided to exemplify the description.

Table 4.2. Translation device for Specialization

CONCEPT	DESCRIPTION OF CONCEPT	HOW CONCEPT MANIFESTS IN STUDY	EXAMPLE
ER+	Emphasises specialist knowledge, skills and procedures in research process	When candidates foreground the nature of their object of study or any theoretical or methodological procedures for generating knowledge	'I have developed a new measurement tool for assessing political commitment, which may contribute towards research efforts to understand what good AIDS governance is, and what contextual factors make certain types of governance more likely.'
ER–	Downplays specialist knowledge, skills and procedures in research process	When candidates downplay specialist knowledge about their object of study or any specific theoretical or methodological approach for generating knowledge	'… I draw on the work of several theorists of power whose work has been applied to such contexts.'
SR+	Emphasises personal attributes of knowers (e.g. personal experience, social categories such as gender)	When candidates foreground aspects to do with knowers (in terms of themselves and/or other scholars in field)	'This story therefore is fundamentally a 'black' story, with all the attendant violence and trauma that is embedded in the 'black' body.'
SR–	Downplays personal attributes of knowers	When candidates downplay personal attributes to do with them as a knower/author of the research and attributes of other knowers in the field	'I realised that educational practices could not be agreed upon insofar as we had different conceptions about what it means to be intellectually disabled.'

Once the above translation device had been created, I returned to the groupings of the five core components of dissertations identified in the empirical thematic analysis. Using the definitions for ER and SR identified above, I undertook an analytic coding of the data in order to understand the different knowledge practices candidates use to construct the five core components across the sample. The analytic coding enabled different kinds of specialization

codes to be revealed in the sample. This provided a way to start addressing the second research question, *How are exemplary knowledge practices enacted in writing?*

During the analysis of ER and SR, it became apparent that there were more nuanced distinctions in the sample between different kinds of epistemic relations and different kinds of social relations. This meant that additional tools were needed to delve deeper into the differences within the different specialization codes. For this reason, the 4-K model (see Chapter 3, Theoretical Framework) was drawn on. Starting with epistemic relations, the 4-K model distinguishes between different strengths of *ontic relations* (OR) and *discursive relations* (DR). As with epistemic relations above, I immersed myself in the data and made notes of any instances of ontic relations, evident when the empirical nature of the object of study was foregrounded in writing. Likewise, any instances of discursive relations, evident in the foregrounding of specialist theoretical frameworks or methodological approaches, were recorded. I discussed and interrogated the definitions of these concepts and how they manifested in the data with my supervisory team until we were satisfied with the analysis. This resulted in the following translation device for *insights* (Table 4.3).

Table 4.3. Translation device for *insights* (epistemic relations)

CONCEPT	DESCRIPTION OF CONCEPT	HOW CONCEPT MANIFESTS IN STUDY	EXAMPLE
OR+	Practices that strongly bound and control what objects of study are considered legitimate or not	When candidates foreground aspects relating to objects of knowledge (e.g. specific topics, phenomena of study or problem situations)	'The public hearing of the TRC in 1998… placed many of the formerly top secret military documents about the programme in the public domain. This opened the way for a detailed examination of Project Coast.'
OR–	Practices that weakly bound and control what objects of study are considered legitimate or not	When candidates downplay aspects relating to objects of knowledge (e.g. specific topics, phenomena of study or problem situations)	'I have no idea why I have chosen to look specifically to these images in an attempt to make sense of my place in this world; why I am resorting to the study of these flimsy pieces of fading and stained paper as a way to resolve my seeming struggles of metaphorical homelessness.'
DR+	Practices that strongly bound and control legitimate procedures for generating knowledge	When candidates foreground specialist approaches (e.g. theoretical frameworks or methodological approaches) for understanding objects of study	'Step 2: Themes were identified for each Q-set, using a thematic analysis as a preliminary procedure to feed into a theoretical model aligned with discourse theory and Q-methodology.'
DR–	Practices that weakly bound and control legitimate procedures for generating knowledge	When candidates downplay specialist approaches for understanding objects of study	'Through feminism I had been exposed to some challenges to epistemological hegemonies in the centre. Standpoint Theory resonated with my situation as activist-researcher, while theorists on the Ethics of Care affirmed what I had concluded while completing my Master's thesis…'

The 4-K model was then used to distinguish social relations into varying strengths of *subjective relations* and *interactional relations*. The same process to that described above was followed, culminating in the following translation device for *gazes* (Table 4.4). The translation device provides a systematic way to code for any instance of subjective relations (SubR), evident in the foregrounding or downplaying of anything to do with the personal attributes of knowers (such as race, class, gender etc.). Similarly it accounted for any instances of interactional relations (IR), seen in the foregrounding or downplaying of particular ways of knowing of knowers.

Table 4.4. Translation device for *gazes* (social relations)

CONCEPT	DESCRIPTION OF CONCEPT	HOW CONCEPT MANIFESTS IN STUDY	EXAMPLE
SubR+	Practices that strongly bound and control legitimate knowers	When candidates foreground qualities to do with knowers	'I am a feminist lesbian who married a woman after decades of renouncing marriage as the nexus of women's oppression… So this research is not only about others' intimate relationships, but also about my own.'
SubR–	Practices that weakly bound and control legitimate knowers	When candidates downplay personal attributes of knowers (either themselves or other knowers in field)	Not found in sample
IR+	Practices that strongly bound and control practices of knowing	When candidates foreground legitimate ways of knowing – of themselves and/or the ways of knowing of other knowers in the field	'Although my emphasis is empirical, the studies of certain writers who are concerned with theatre and ritual have been useful in shaping my argument.'
IR–	Practices that weakly bound and control practices of knowing	When candidates downplay legitimate ways of knowing – of themselves and/or the ways of knowing of other knowers in the field	'The description of 'tribes' can be problematic and is often more about the anthropologist or ethnologists desire to categorise people than a reflection of the identities of the people they describe…'

The above three translation devices (Table 4.2, 4.3 and 4.4) provided a means to analytically code the dissertations using concepts from Specialization. This provided a way to understand the organising principles that underpinned the knowledge practices – that is, it provided a way to look beyond what candidates were writing about (i.e. the *focus* of the knowledge) to rather consider the principles informing or giving rise to the kind of knowledge being enacted (i.e. it could reveal the *basis* of the knowledge practices). This affords a way to characterise the dissertations according to the organising principles of their knowledge practices, providing a way to account for why and how dissertations differ without having to rely on common-sense categories such as subject type or chapter structure. This process, as well as the implications of the analysis, is described in greater detail in the analysis presented in Chapter 6.

The Specialization analysis provided an important first step for understanding how candidates use generalizable knowledge-building strategies to construct the five core components of the dissertation in different ways. It also raised the question of how this is actually done in

dissertations – i.e. the *process* of constructing knowledge in practice. To address this question, a third stage of analysis using Semantics was undertaken.

6.3. Stage 3: Semantics analysis

The second step in addressing the research question of, *How are exemplary knowledge practices enacted in writing?* involved using Semantics to understand how candidates use discursive strategies for shifting context-dependence and complexity of meanings to construct knowledge in writing. This third stage included a more fine-grained analysis of just one of the core components identified in Stage 1, 'constructing findings'. This was done in two parts. First, discursive strategies for shifting context-dependence ('context strategies') and complexity ('complexity strategies') of meanings were identified in the sample. These strategies were then understood in terms of *epistemic-semantic gravity* (ESG) and *epistemic-semantic density* (ESD) – see Chapter 3 (Theoretical Framework) for details of these concepts. This part of the analysis is explained and discussed at length in Chapter 7. Once context strategies and complexity strategies had been defined, the second step involved developing them into conceptual tools for analysing texts in order to address the third research question, *How can conceptual tools analyse exemplary knowledge practices?* This forms the analysis in Chapter 8. Part of this process included creating translation devices for context-dependence and complexity, which is now described.

6.3.1. Creating tools for ESG

The first step in the Semantics analysis, as with Specialization, was immersing myself in the data by reading and characterising different 'constructing findings' components across the sample. Drawing on my theoretical knowledge of Semantics, as well as features illuminated in other studies, such as Bloom's Taxonomy (Krathwohl, 2002) and Paré's (2011) account of supervisor feedback on doctoral writing, I made notes of any instances in the writing that shifted the context-dependence of the knowledge. For example, if candidates described their own context and then compared it to another study, I noted the movement in the knowledge as relating to context-dependence. This process produced a list of empirical characterisations of the moves in writing – referred to as 'discursive strategies', such as 'makes an interpretation', 'quotes directly from data', 'explains data by using other scholars' ideas', and so forth.

Different dissertations and examples were considered until the list of descriptions exhausted the options (i.e. until the list was able to account for all features presented in new texts).

Once a list of discursive strategies had been identified, I used my theoretical knowledge of Semantics to understand these different moves in texts as shifts in ESG. This second step in the analysis involved organising the different descriptions according to strengths of ESG so that different categories could be defined. To do so, I followed a similar process to that undertaken by Maton and Doran (2017b) for ESD. In the first instance, I set up a continuum for ESG, establishing a distinction between stronger ESG (ESG+) and weaker ESG (ESG–). Once this distinction was made, I went back to my empirical descriptions and sorted them into either 'ESG+' or 'ESG–' groups, noting the reasons for assigning them into the relevant group. This process of allocating descriptions into two groups enabled me to understand a major distinction in the context-dependence of knowledge being enacted: the knowledge was either bound to the context of the study at hand, or it drew on knowledge from outside the immediate context of the study (i.e. from other studies or from theoretical frameworks etc.). This enabled me to distinguish two 'types' of ESG along the continuum, *context of study* and *contexts beyond study*, as demonstrated in Figure 4.1.

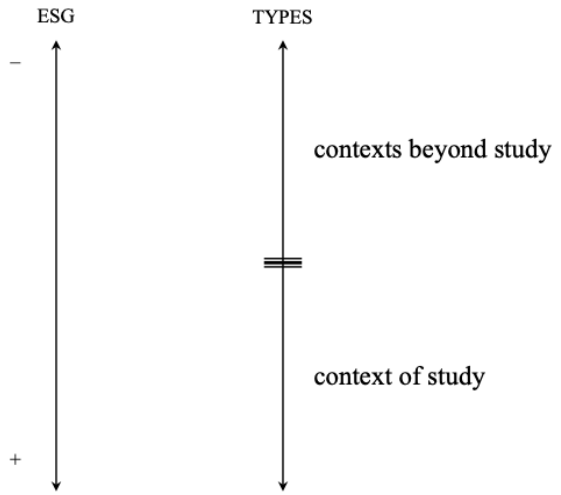

Figure 4.1. Division of ESG continuum into 'types'

Following the first division, I then considered the different descriptions within each category, ordering them according to strengths of ESG within each 'type'. Within the first type, *context of study*, I further distinguished that there were strategies that enabled instances of the

materials[8] (e.g. quotations from interview transcripts, numerical data, reproduced images etc.) to be included in the writing, such as through descriptions or quotations, and others that focused more on developing an understanding of the materials using the candidates' own knowledge. I could thus distinguish between two 'subtypes' within *context of study*, which were labelled *reproducing* and *understanding* respectively. Within the second type, *contexts beyond study*, I considered all the strategies that looked beyond the immediate context of the study. These included strategies that drew on existing knowledge from other studies or frameworks as well as those that produced generalizable understandings of the materials as a whole in relation to other contexts. I was thus able to distinguish between two 'subtypes' within *contexts beyond study*, which I labelled *broadening* and *advancing* respectively. These four different 'subtypes' are illustrated in Figure 4.2.

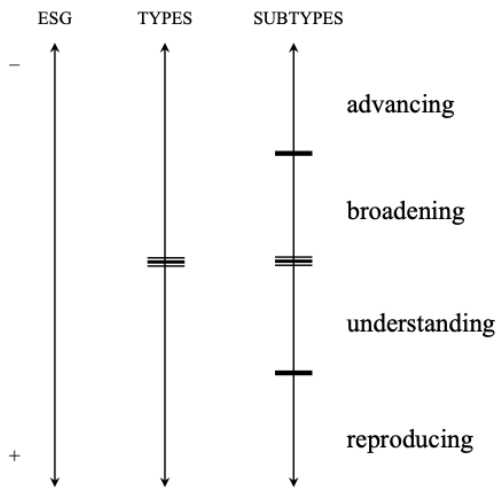

Figure 4.2. Division of ESG 'types' into 'subtypes'

Following a similar process, the four 'subtype' levels were then further scrutinised to see whether a distinction could be made between different strategies within this level. Starting with strongest ESG, the 'subtype' of *reproducing* included strategies for quoting directly from the materials as well as strategies that enabled candidates to provide summarising descriptions of their materials. A distinction was therefore made between 'sub-subtypes' of *presenting* and *summarising*. At the 'subtype' level of *understanding*, a distinction was made between strategies that produced understandings by interpreting instances of materials and those which

[8] 'Materials' is used as a more inclusive term as opposed to 'data', which is seen to impose a set of assumptions on how research is conceptualized.

created understandings by generating more generalised claims about the materials. Two ‘sub-subtype’ categories of *interpreting* and *claiming* were thus created.

Within the ‘subtype’ of *broadening* a distinction was made between strategies that drew on the findings from existing research, often for contrastive or supportive purposes, and those which reached out to more abstract knowledge such as theoretical or methodological frameworks. These differences were defined as ‘sub-subtypes’ of *bridging* and *branching* respectively. In the same way, the relatively weakest ‘subtype’ of ESG, *advancing*, was further distinguished into two further ‘sub-subtypes’, *generating* and *theorising*. These distinguished between strategies that produced empirical generalisations about the materials as a whole, offering insights and implications for other empirical studies in the wider field, and those that offered theoretical or methodological implications for existing frameworks in the field. The recursive division of the four ‘subtypes’ into eight ‘sub-subtypes’ of ESG is illustrated in Figure 4.3.

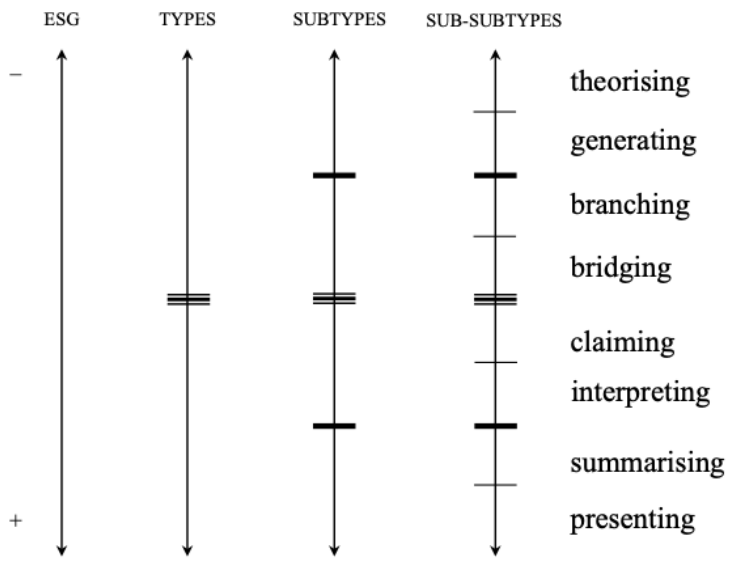

Figure 4.3. Division of ESG 'subtypes' into 'sub-subtypes'

As suggested in Figure 4.3, the level of delicacy or detail that one can measure is (in theory) infinite. The level of detail used depends on the needs of the study on hand. Considering the pedagogic goals of the research, delving into the detailed ‘sub-subtype’ level was considered important for the development of scaffolding tools and models as each sub-subtype of ESG is considered to play an important role when constructing findings, as the thesis will show in later

chapters. The process of how these strategies were identified, as well as how they are defined, is described at length in Chapter 7.

Once the different strategies had been defined and organised in terms of categories of ESG they were developed into a translation device for analysing shifts in context-dependence in texts. The translation device for ESG is presented in Table 4.5.

Table 4.5. Epistemic-semantic gravity translation device

ESG– ↕ **ESG+**	**CONTEXTS BEYOND STUDY**	ADVANCING	THEORISING
			GENERATING
		BROADENING	BRANCHING
			BRIDGING
	CONTEXT OF STUDY	UNDERSTANDING	CLAIMING
			INTERPRETING
		REPRODUCING	SUMMARISING
			PRESENTING

The translation device for ESG presented in Table 4.5 is essentially the outcome of the analysis presented in Chapter 7. For this reason, the different categories are not described in detailed or discussed here, as Chapter 7 provides considerable space detailing the process of its creation. Chapter 8 enacts the translation device on select examples to illustrate its utility for analysing context-dependence in texts.

6.3.2. Creating tools for ESD

Following a similar process to that of ESG, to create tools for analysing complexity in knowledge I first immersed myself in the data, reading different ‘constructing findings’ components across dissertations. Drawing on my knowledge of epistemic-semantic density, I started to note any moves in writing which appeared to shift the complexity of knowledge. For example, when candidates explained a theoretical concept in simple terms. This resulted in a list of empirical descriptions such as ‘unpacks theoretical concepts’, ‘gathers up simple

meanings into more complex claims', 'incorporates knowledge produced in existing studies into findings' and so forth. I continued to do this until the list could account for all instances relating to shifts in complexity in multiple texts.

The next step involved organising the empirical descriptions according to strengths of ESD. To do this, I used a continuum of ESD to allocate the various empirical descriptions into either stronger ESD (ESD+) or weaker ESD (ESD–). All meanings that related to the empirical materials were considered to be weaker ESD because they enacted the original meanings imbued in the materials as well as simple meanings created by the candidate using their own knowledge. This category was therefore described as *empirical meanings*. All meanings relating to existing knowledge from the field, such as other empirical studies or theories and methodologies, were characterised as stronger ESD. This was because the meanings contained within existing frameworks or studies are as a result of complex knowledge-building processes (i.e. they are the products of complex research). This category was described as *academic meanings*. The creation of these two ESD 'types' is represented in Figure 4.4.

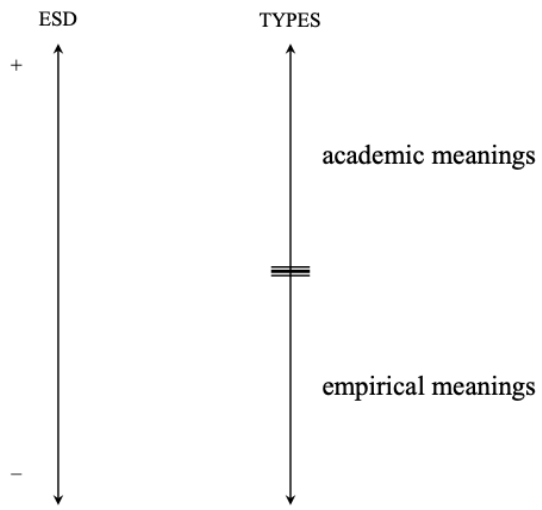

Figure 4.4. Division of ESD continuum into 'types'

Following the first distinction between the two 'types', I then considered the categories within each type to identify a continuum of strengths of complexity within *empirical meanings* and *academic meanings*. Within *empirical meanings* I distinguished between strategies that presented materials in as close to 'raw', unelaborated form as possible (such as through quotations or summaries) and those that added meanings to the materials when attempting to make sense of them. I could thus distinguish between two 'subtypes', which were labelled

exhibiting and *elaborating* respectively. Similarly, within *academic meanings* I distinguished between strategies that created links to other complex meanings in the field (such as empirical findings from other studies or to theory being used), and those which created potential links to future empirical studies and abstract constellations of knowledge (such as methodological approaches or theoretical frameworks). These different 'subtypes' were labelled *linking* and *creating* respectively. The four 'subtypes' are summarised in Figure 4.5.

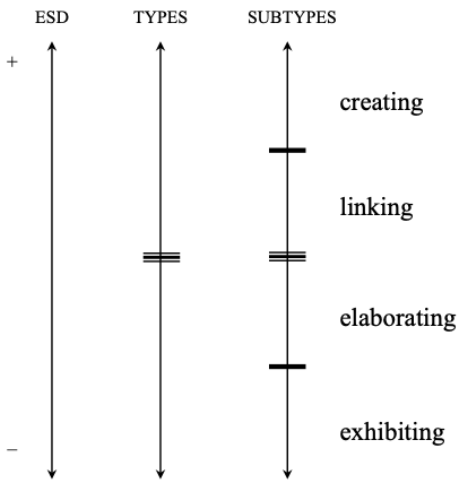

Figure 4.5. Division of ESD 'types' into 'subtypes'

Following a similar process, the four 'subtype' levels were then further scrutinised to see whether a distinction could be made between different strategies within this level. Starting with weaker ESD, the subtype of *exhibiting* included strategies for presenting materials in 'raw' form – i.e. with no additional meanings added (such as direct quotations), and those which presented materials which had been arranged in particular ways (such as summarising descriptions of the materials). This distinguished between two 'sub-subtypes', which were labelled *portraying* and *arranging* respectively. Within *elaborating* a division was made between strategies that distinguished between simple meanings (often described as 'unpacking') and those that consolidated simple meanings into more complex stances (often referred to as 'packing-up' meanings). These formed two 'subtypes' which were labelled *distinguishing* and *consolidating* respectively.

Moving to stronger ESD, a division between strategies within the 'subtype' level of *linking* could be made. This included strategies that enabled relatively more complex meanings from existing studies to be associated with the meanings produced about the materials. This 'sub-

subtype' was labelled *associating*. The subtype of *linking* also included strategies that compacted complex, technical meanings from theory or specialist methods into the meanings being generated from the materials. Such strategies were labelled *compacting*. Finally, within *creating*, the relatively strongest level of ESD, a distinction could be made between strategies which created potential links to future clusters of empirical studies on similar objects of study and those which created potential links with abstract constellations of knowledge, such as specialist methodological approaches or theoretical frameworks. These two 'sub-subtype' categories were labelled *clustering* and *constellating* respectively.

The eight different 'sub-subtypes' for complexity are summarised along an ESD continuum in Figure 4.6.

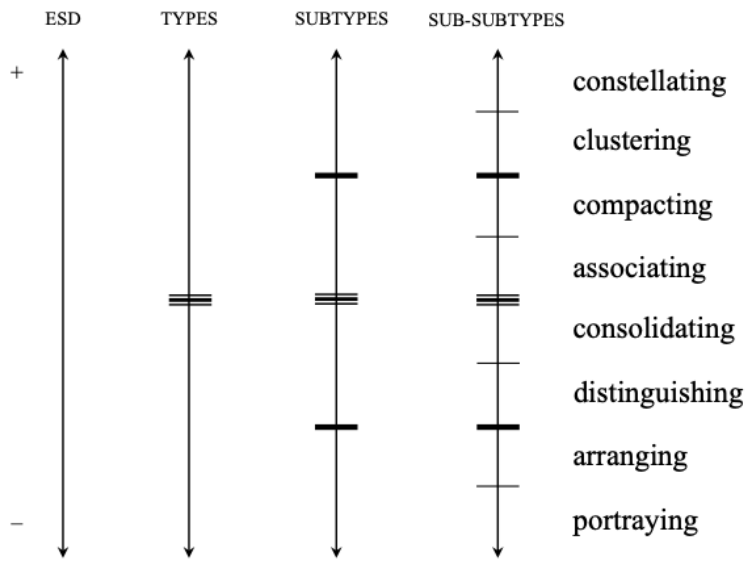

Figure 4.6. Division of ESD 'subtypes' into 'sub-subtypes'

Once the different strategies for complexity had been defined and organised in terms of strength of ESD, they were developed into a translation device for analysing shifts in complexity in texts. The translation device for ESD is presented in Table 4.6.

Table 4.6. Epistemic-semantic density translation device

ESD+ ↕ **ESD–**	**ACADEMIC MEANINGS**	CREATING	CONSTELLATING
			CLUSTERING
		LINKING	COMPACTING
			ASSOCIATING
	EMPIRICAL MEANINGS	ELABORATING	CONSOLIDATING
			DISTINGUISHING
		EXHIBITING	ARRANGING
			PORTRAYING

The above translation device for ESD is essentially the outcome of the analysis presented in Chapter 7; therefore it is not explained in any more detail here. Chapter 8 enacts the translation device on select examples to illustrate its utility for analysing complexity in texts.

6.3.3. Using diagrams to illustrate analyses

The ESG analysis in Chapter 8 is synthesised using deconstructed semantic profiles to illustrate the changes in context-dependence of knowledge. Semantic profiles are essentially simple line graphs that track the movements in context-dependence over time. The x-axis of the graph corresponds to the duration of time (in this instance, number of lines of text) and the y-axis corresponds to the ESG categories outlined in the translation device in Table 4.5. For the analysis undertaken in Chapter 8, the detailed level of ‘sub-subtypes’ is used. This means that the corresponding semantic profiles are plotted according to the eight categories of context-dependence, as illustrated in the example provided in Figure 4.7.

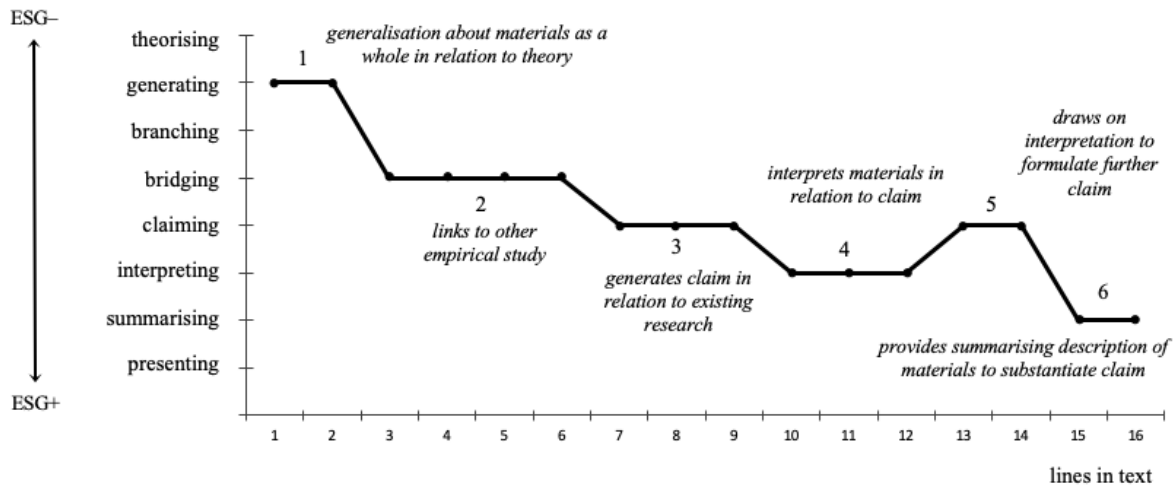

Figure 4.7. Example of a deconstructed ESG profile

To make the profiles more accessible, they have been 'deconstructed'. By this I mean that text has been added (such as can be seen in Figure 4.7) which summarises what is happening at each point in the text as the candidate engages a strategy for context-dependence. Semantic profiles are an effective means of synthesising in-depth textual analysis in order to gain a holistic understanding of how shifts in context-dependence occur over time. The line-graph format also makes intuitive sense for ESG, as the stronger, more contextual categories are portrayed at the bottom of the y-axis – 'on the ground' so to speak, while the more abstract, context-independent categories are portrayed at the top of the y-axis – 'in the clouds'. The use of semantic profiles, as well as what they afford, is explained in more detail in Chapter 8.

To complement the analysis of complexity undertaken in Chapter 8, a new form of diagramming, developed in this thesis, is used. The 'complexity formalism', presented and used in Chapter 8, is argued to better represent and illustrate the incremental process of building complexity over time. This is because unlike a semantic profile, which is an effective way to show the different strengths of ESG or ESD over time, the formalism is better able to represent the *accretion of complexity* as a text unfolds. This is especially useful for representing strategies of weaker ESD. When represented on a profile, the move down the y-axis to weaker ESD may be misinterpreted as a *lack* of complexity or that complexity is no longer being added. The formalism, in contrast, is able to show that even when weaker ESD strategies are enacted in writing, the preceding meanings that have been accumulated by that point are still carried forward (i.e. complexity is still being increased).

The formalism is a simple diagram that is governed by a straightforward, adaptable set of rules to suit the accompanying translation device. A single unit of meaning is represented by a single box. When meanings are related together, a connection is established between them. This is represented by two boxes, connected by a particular kind of line. Depending on the type of strategy used, the strength of the connection will be greater or weaker. In this thesis, the formalism works at the level of 'subtypes', which establishes four sets of relations. The weakest ESD strategy, 'exhibiting', is represented by a single line to illustrate that less complexity is being added. The strategy of 'elaborating' is represented by two lines, the strategy of 'linking' by three lines, and the strongest ESD strategy, 'creating' is represented by four lines. These relations are summarised in Figure 4.8.

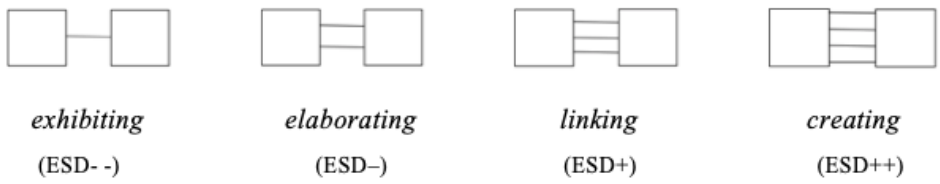

Figure 4.8. Representation of complexity strategies

To show how complexity is accumulated over time, an outside rectangle is used to illustrate how meanings are carried forward each time a strategy is enacted. This is demonstrated in Figure 4.9.

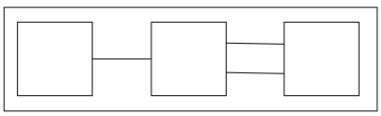

Figure 4.9. Representation of condensed meanings carried forward

When terms with technical meaning (such as theoretical concepts) are introduced in a text through the strategy of *linking*, the unit of meaning represented in the diagram is shaded to reflect the more complex knowledge being added, as shown in Figure 4.10.

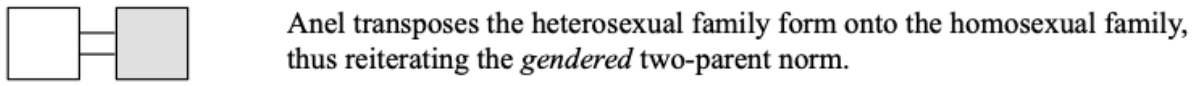

Figure 4.10. Representation of technical meanings

If whole texts are diagrammed using the complexity formalism, the accretion of complexity can be made more explicit. The use of the complexity formalism and the affordances it provides is explained in more depth in Chapter 8.

7. QUALITY OF RESEARCH

Validity and reliability are important aspects of any research. Given that all qualitative research is, to varying degrees, subjective in that the researcher must interpret phenomena, validity and reliability have to be managed by mitigating against potential limitations (Cohen et al., 2011). In this research, potential limitations regarding the quality of the sample and the analysis were addressed.

A potential limitation regarding the sample is the quality of the dissertations included. In order to work with 'gold standard' knowledge practices, dissertations were recommended by experienced scholars in the field. Given the subjective bias of the selected scholars, however, it is possible that not all would agree that the dissertations included in the study warrant 'exemplary' status. To mitigate this potential limitation, examiner reports were collected to provide triangulation for the quality of the sample.

As with all qualitative research, the analysis undertaken in this thesis presents a possible limitation in that it is inherently subjective. For example, even though existing and well-defined theoretical concepts have been used to construct the analytical tools, I use my own discretion when considering what *stronger* epistemic relations vs. *weaker* epistemic relations are in the data (the same applies to all theoretical concepts used). To mitigate this potential weakness, I created and used a series of translation devices. This enabled a way to first systematically define the use of concepts in relation to the problem situation, meaning that I could then conduct a consistent analysis across different texts. The creation of translation devices also affords analytical 'transparency' in the study – i.e. 'how far the reader can understand, and is informed of, the processes by which the interpretation made is actually reached' (Cohen et al., 2011, p. 182). Translation devices help make explicit how theory and data is mediated in the analyses, which makes the logic of my thinking process more accessible to the reader. The use of translation devices also helps ensure that the analysis is accessible and reproducible, thus increasing its validity and reliability.

Potential limitations of the analyses were also reduced by testing the creation of the translation devices and each stage of the analysis with an LCT peer group at the LCT Centre for Knowledge-Building (The University of Sydney), prior to being included in the thesis. Feedback was also gained from presenting the analyses at an LCT Sydney Roundtable presentation during the final months of the research.

8. CONCLUSION

This chapter has provided a concrete, detailed description of the research process. It has provided an overview and explanation of the methodological approach adopted in the study, outlining the aims of the research and the research questions which inform the study. The data sample and collection process have been described and justified in relation to the aims of the study. The process of creating conceptual tools for analysing knowledge practices in dissertations using LCT concepts has been explained in detail. The chapter has also addressed ethical considerations as well as issues of research reliability.

The next four chapters enact the analytical process that has been described here. Chapter 5 presents an empirical analysis of the sample of dissertations to address the question of what defines a successful doctorate. Chapter 6 extends this analysis using concepts from Specialization to understand the knowledge strategies candidates use to enact different kinds of knowledge in the different components of the dissertation. Chapter 7 reveals a set of discursive strategies candidates enact when constructing findings, interpreting these using the concepts of ESG and ESD. Chapter 8 employs these discursive strategies as conceptual tools to show their utility for analysing knowledge practices in dissertations. It does this by using illustrative examples to reveal exemplary configurations of strategies in doctoral writing. Chapter 9 concludes the thesis by bringing these analyses together to address the implications of the findings for the development of pedagogy and future research.

CHAPTER 5
DEFINING A SUCCESSFUL DOCTORATE:
A new way to characterise doctoral writing

1. INTRODUCTION

This chapter provides an empirical analysis of what a doctorate is and what a doctoral dissertation should contain by giving an overview of the requirements set out in national and institutional policy, advice from thesis-writing guidebooks and linguistic studies of dissertations, as well as insights gained from 25 exemplary doctoral dissertations which forms the sample in this study. The aim of the chapter is to understand how doctoral dissertations are defined and approached in policy and guidelines, and how this relates to the advice given in thesis-writing guidebooks on how to achieve these requirements. These insights are then discussed in relation to the sample of dissertations, in order to gain an understanding of how these requirements and expectations get enacted in actual dissertations.

Given the proliferation of perspectives on doctoral writing and the confusion this can at times create, the aim of this chapter is to do some 'ground-clearing'. First, the chapter will show that although policy defines what the doctorate is and sets out the minimal set of requirements that need to be addressed in the dissertation, these requirements are generic and open to interpretation, which makes it difficult to ascertain a set of rules for candidates to follow. Second, it will show how guidebooks often construct a set of assumptions about doctoral writing that make it seem more straightforward than it is, which at times, can obscure the complexity and variability in dissertations. Third, it will show that the choices adopted by candidates when writing their dissertations cannot be adequately described through existing categories for doctoral writing. Finally, the chapter advocates a new way of analysing doctoral writing. By adopting a focus on texts, the discussion provides an empirical understanding of the core features (the minimal requirements) of doctoral dissertations. This understanding is then used to formulate a schema for doctoral writing. Developing a new perspective on doctoral writing is necessary if the basis of achievement of doctoral dissertations is to be made explicit. Without first making clear what are considered to be exemplary ways of writing dissertations,

finding ways to teach doctoral writing will be problematic, as the goals of teaching will remain elusive.

2. GOING BACK TO BASICS

The review of literature on doctoral writing in Chapter 2 offered insights into why the writing of doctoral dissertations is rarely analysed in any depth. The reasons typically relate to the size of the text, the changing nature of doctorates and the disciplinary conventions of academic writing being a deterrent to research efforts, given that disciplinary knowledge (particularly complex or technical knowledge) is not always accessible to those with the analytical skills to analyse texts (Paltridge, 2002). The few linguistic studies available that do consider the textual features of dissertations reveal a number of key insights in terms of macro-features of dissertation structures and organisation, micro-level rhetorical features and features pertaining to different kinds of knowledge. This provides the study with an important starting point.

The review of literature also, however, identified a number of limitations in existing research. In particular, it identified the need to complement linguistic studies that focus more on language features of text as resources for meaning-making with an approach that can analyse knowledge practices as an object of study in its own right. Furthermore, the review identified the need to move away from knowledge typologies evident in much existing research (e.g. 'hard' vs. 'soft', 'science' vs. 'humanities' vs. 'social science'), which tend to artificially categorise different subject areas into different 'types' of doctoral writing, resulting in deterministic categories that can obscure the complexity and variability of doctoral writing. In an attempt to 'go back to basics', this section considers available data on what defines a doctorate, including official policy documents and university rules. It then considers how thesis-writing guidebooks advise candidates on how to enact these requirements in practice.

2.1. Defining the doctorate: Insights from policy

A starting point to understand the nature of the doctoral dissertation is to consider the policy that defines the criteria for the degree and which is used to inform the examination of the dissertation. In South Africa, the rules and regulations for what constitutes a doctorate are set by the Council on Higher Education (CHE) in their *Higher Education Qualifications Sub-*

Framework (Council on Higher Education, 2013), which is sanctioned by government. This policy describes (and defines) the doctoral degree as the following:

> The defining characteristic of this qualification is that the candidate is required to demonstrate high level research capability and to make a significant and original academic contribution at the frontiers of a discipline or field. The work must be of a quality to satisfy peer review and merit publication. The degree may be earned through pure discipline-based or multidisciplinary research or applied research. This degree requires a minimum of two years' full-time study, usually after completing a Master's Degree. A graduate should be able to supervise and evaluate the research of others in the area of specialization concerned.
>
> (Council on Higher Education, 2013, p. 40)

The description quoted above is the full extent of the characterisation of a doctorate provided by the CHE. It is noticeably concise and (necessarily) general because it is capturing the essence of a degree that spans multiple different disciplines and universities across South Africa. This is similar to other national contexts, for example, Australia. In this context, the Australian Qualifications Framework (AQF) Council provides a similarly concise and generic description in their policy document (Australian Qualifications Framework Council, 2013, p. 64). The AQF policy includes further details regarding the skills doctoral graduates should have by the end of their degree, for example 'cognitive skills to demonstrate expert understanding of theoretical knowledge and to reflect critically on that theory and practice' (Australian Qualifications Framework Council, 2013, p. 64). Descriptions of the actual degree, however, are similar in scope and specificity as South Africa. Despite the fact that policy keeps the definition of a doctorate relatively vague, it does suggest the minimum foundational features that a dissertation must include. Drawing on the CHE definition provided above, these minimum features include: demonstrating a 'high level research capability', making an 'original academic contribution at the frontiers of a discipline or field' and that 'the work must be of a quality to satisfy peer review and merit publication'.

Universities across South Africa use the CHE definition of a doctorate as the foundation of their own policies, rules and regulations. At times, the original definition is interpreted and elaborated in order to provide additional (more specific) criteria. For example, Rhodes University states that the thesis should demonstrate that 'the candidate is sufficiently acquainted with the appropriate methods of research' as well as being 'sufficiently acquainted with the relevant literature' and that the thesis should 'satisfactorily present' the results of the

independent research (Rhodes University, 2017, p. 89). The requirement of contributing a substantial and original contribution to knowledge is echoed in all five of the universities included in the study. These descriptions do not, however, provide much detail on how this is achieved or shown in the dissertation. For example, Stellenbosch University's rule book states that the dissertation 'shall reflect original research by candidates into one central and cohesive problem' (Stellenbosch University, 2017, p. 174). Likewise the University of the Witwatersrand states that a thesis 'must constitute in the opinion of the *Senate* a substantial contribution to the advancement of knowledge in the subject chosen' (University of the Witwatersrand, 2017, p. 19). Therefore, despite providing more detailed guidelines, the descriptions provided in university rules and regulations of what constitutes a doctorate remain relatively general and nebulous.

To help candidates make sense of the expectations of the doctorate, some universities provide advice in postgraduate guides. These guides provide additional information to candidates about what kinds of sections or parts the dissertation should include. For example, at the University of the Witwatersrand, a Faculty of Humanities Guidelines booklet includes a section called 'Expectations of the Thesis' (University of the Witwatersrand, 2010, p. 14). This section describes the expected features of a doctoral dissertation including a research question or problem, a literature review, a theoretical framework (which the booklet describes as either a stand-alone chapter or as part of the literature review), research methods, research data, research interpretation and analysis, and a conclusion. Other universities, such as Stellenbosch University, state that a dissertation should show a satisfactory 'delimitation and conceptualization of the field and subject of research', 'clear and systematic presentation of the material and logical exposition of the argument' and 'proper documentation and support of the results of independent research' (Stellenbosch University, 2015, p. 32). Even with this extra detail, there is little instruction on how these features can (or should) be demonstrated in the written text of the dissertation. As such, the explanations generally suggest some expected or at least important features which should be included in the dissertation, but rarely give advice on the different forms those features can take in the text or how they can be achieved on a practical level.

National policy definitions and university descriptions of what constitutes the doctorate also commonly form the basis of examiner reports that are used to assess the dissertation. For example, Rhodes University includes criteria such as 'Does the thesis show that the candidate

is sufficiently acquainted with the appropriate methods and techniques of research for the award of the degree?' and 'Does the thesis show that the candidate has sufficient acquaintance with the current and other relevant literature?' (Rhodes University, 2016, p. 85). The inclusion of these questions in examiner reports shows the importance of these criteria, as it is against these that a candidate's dissertation will be judged. However, the description remains general and open to interpretation, as what is 'sufficient acquaintance' in one examiner's opinion might differ to that of another. Likewise, without pinning down exactly what this means in policy, it is reasonable to assume that the kind of writing which demonstrates a 'sufficient acquaintance' is likely to be as variable among doctoral candidates as is the interpretation of it by examiners.

Vague instruction implicitly assumes that those 'in the know' – i.e. those who have mastered the 'Discourse', in Gee's (2012) terms – will 'know' the most appropriate course of action to follow. Such an assumption has been identified in terms of academic practice more generally in South African research intensive universities where there is an implicit discourse of trust placed in academics to 'do the right thing' (McKenna & Boughey, 2014). From a social justice perspective, there is a need to make these assumed (and often elusive) academic practices more explicit to open up access. This is relevant at both the candidate level (which is what this study is focused on), but also for new academic staff entering the system who may not share the same cultural capital that universities in South Africa tend to privilege.

Although all policy is relatively general, when looking at the multiple iterations of rules and definitions together, one can reasonably ascertain a number of broad characteristics a doctoral dissertation must include in order to make it worthy of the award of the degree. These characteristics include:

- making a substantial original contribution to knowledge
- demonstrating familiarity with the field, and
- using appropriate research methods.

Based on these common characteristics, it can be expected that a doctoral dissertation will contain some kind of 'data' (in the broadest sense of the word), if the intention is to contribute something 'new'[9] to a field. Therefore, the candidate will need to present new findings, based

[9] Notably, 'new' does not refer specifically to using 'new' (i.e. previously unused) data, methods or theory – dissertations rarely 'reinvent the wheel' entirely. Rather 'new' refers to the fact that each study approaches a

on data, in the dissertation. The candidate will also need to contextualize the research within a field, showing what is already known about the topic and the perceived gap that it is attempting to fill. Policy also requires the candidate to use 'appropriate research methods'. As such, the candidate would need to demonstrate in the dissertation how they did the actual research and how there is coherence in the chosen approach (i.e. a logical coherence between the questions, theory, methods and so forth). The way in which these characteristics get written about, however, is left open for interpretation.

This section has provided insight into what the context has asked for, in terms of producing a successful doctoral dissertation. Drawing on both national and university policy, inferences can be made about the minimal features a dissertation should include. These features, however, remain relatively broad and general, with little or no instruction on how they can be successfully enacted in the dissertation. This (presumably) allows for individuality and variability at this level of candidature; leaving criteria open to interpretation and subjectivity for both the candidate and the examiner. While helpful in allowing room for individual creativity in dissertations, the vagueness of policy hinders an understanding of doctoral writing in the first instance, which presents a challenge for teaching it, in the second. This is particularly problematic in developing contexts such as South Africa where a concerted effort is being made to expand and diversify the staff profiles of universities, meaning that an increasing number of new supervisors are now entering the system. Scholars in academic development have long argued for the need to make the 'rules and conventions' (Ballard & Clanchy, 1988) of academic practices explicit. Those supervisors who have the benefit of having the right 'Discourse', in Gee's (2012) terms, will be able to make sense of the vague definitions, however, those who do not share this 'way of knowing' will be excluded from this insider's understanding.

One way to gain a more nuanced understanding of what these successful features look like in practical terms is to consider the advice candidates (and supervisors) can – and do – receive on doctoral writing from external resources such as thesis-guidebooks. These insights are now discussed.

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problem from a unique angle and each author invariably offers a unique perspective or approach to the topic in the way they treat it or in how they construct meanings about the topic and so forth.

2.2. Characterising doctoral dissertations: Insights from literature

Literature on doctoral writing has already been extensively reviewed in Chapter 2, Literature Review. This section summarises the salient features of dissertations revealed in studies to gain a better understanding of how candidates are advised to address the requirements of the doctorate, described above. First, the advice offered in thesis-writing guidebooks is discussed. Second, key features identified in linguistic studies of dissertations are briefly summarised.

As described in Chapter 2, a vast number of 'self-help' guidebooks on how to write a successful dissertation have emerged on the market, claiming to break down the criteria for a doctorate into practical applications. Advice offered in these books varies substantially, with many texts ironically not considering writing at all. Advice on writing which is given typically relates to overall dissertation structure, including what parts should be included, how they should be included, what they should contain and what they should be called. Such descriptions typically set up the following common structure: Introduction – Literature Review – Methodology – Results – Conclusion. These parts of the dissertation are commonly discussed as the standard case, and as such, become established as 'common-sense'. They are also portrayed as discrete entities, each occupying a stand-alone chapter. Guidebooks rarely provide any detailed explanation of how these common parts can be written in different ways, how they can be incorporated into the dissertation (such as being placed within other chapters or forming part of the broader narrative without any explicit markers) and how the contents of the different sections might differ. They also create confusion as to what 'additional' elements might be included – theory being a good example. Some books claim theory should be part of the broader rationale of the study, others suggest it should be included in the methodology, others in the literature review and many books did not reference the inclusion of theory at all. This creates a fair amount of confusion as to how the presumed structure should accommodate other components.

Linguistic studies that consider the features of dissertations reveal a number of important insights for understanding how candidates are expected to address the vague criteria provided in policy. They also contradict (and at times, explicitly critique) thesis-writing guides, showing how guidebooks typically offer oversimplified generic accounts of dissertations that have limited use in reality. For example, Paltridge (2002), Paltridge et al (2012) and Starfield and Ravelli (2006) provide a detailed account of the macrostructures of different doctoral

dissertations, revealing four main dissertation types: simple traditional, complex traditional, topic-based and thesis by publication. The authors also show across studies that while these macrostructures are loosely associated with different disciplines (for example, topic-based structure is more commonly associated with humanities research), they cannot account for disciplinary distinctions. Furthermore, studies such as that conducted by Paltridge et al (2012) reveal vast amounts of variation within macrostructures. For example, features like 'methodology' can occupy various different placements in the dissertation, can be labelled with different names, and can contain significantly different content. Another important observation made in their study is that despite the variation evident in samples, all dissertations will typically address the main functions of the dissertation, such as locating the study within a broader field, showing how the study has moved the field forward and so forth (Paltridge, Starfield, Ravelli, & Tuckwell, 2012, p. 341).

In order to gain a more detailed understanding of the features of dissertations, the next section considers the sample of 25 exemplary dissertations to assess how the assumptions and expectations set up in thesis-writing guides play out in reality. It also considers how the insights gained from linguistic studies of doctoral writing (largely focused on dissertations from the creative, visual and performing arts) contribute to understanding the sample.

3. LEARNING FROM EXAMPLE: Insights from the sample of dissertations

The 25 doctoral dissertations included in this study typically identify themselves as subjects located within what is termed the 'humanities' and 'social sciences' and were recommended on the basis that they are exemplary dissertations (see Chapter 4, Methodology). Thesis-writing guidebooks, and, to a lesser extent, the requirements set out in policy, construct a set of assumptions of what should be included in the dissertation. The two most pressing assumptions entail how the dissertation should be structured – i.e. an assumed set of basic 'core components' of the dissertation, for example that all doctorates need to have a methodology – and how these core components should be labelled – i.e. the section dealing with literature from the field will be called the 'literature review'. When considering the sample of actual dissertations from a macro, structural level, focusing only on their self-presented chapter structure, it appears that not all the necessary (or expected) features of dissertations are present, nor are they labelled in uniform ways.

3.1. Unravelling the expected structure of dissertations

The first step in understanding how the dissertations in the sample are structured involves comparing and contrasting the way in which the candidates compile and label their chapters. This provides insights as to which parts of the dissertation are most variable across the sample and which are the most common, as well as understanding how candidates refer to these different parts.

When looking at the sample, it became apparent that the only common components across the whole sample are the inclusion of an abstract, introductory chapter, data chapters, a concluding chapter and references. In this respect, candidates always introduce their study, they will provide new data or materials on a specific topic and they will conclude the study in some form. They also all conform to the standard academic formality of including an abstract and list of references. In respect to how dissertations differ, a substantial amount of variation is evident in how candidates include additional sections between the introduction and the findings chapters. It thus became evident that the assumed chapter structure (as set up in thesis-writing guides) does not hold across the sample. In fact, the sample splits between dissertations that appear to follow the assumed structure and those that do not. This split is summarised in table 4.1 with dissertations that followed the assumed structure referred to as 'elaborated structure' and those that did not conform as 'simple structure'[10].

Table 5.1 Chapter structure of dissertations in sample

Simple structure	Elaborated structure
8, African studies	5, Anthropology
9, Anthropology	17, Anthropology
10, Anthropology	18, Archaeology
11, English literature	6, Political studies
12, English literature	14, Political studies
13, English literature	22, Political studies
19, English literature	3, Psychology

[10] 'Simple' is used here in a non-technical sense of the word to refer to a straightforward structure of only three main parts of the thesis. It is not intended to share the technical meaning in Thompson's (1999) distinction between 'simple' and 'complex' patterns of thesis organization.

1, History 2, History 20, History 21, History	4, Psychology 23, Psychology 24, Psychology 7, Sociology 15, Sociology 16, Sociology 25, Sociology

Dissertations with a simple structure include an introduction, findings chapters and a conclusion. This is similar to what Dudley-Evans (1999) describes as 'topic-based' theses. From a chapter-structure perspective, these dissertations do not appear to incorporate discrete and named sections such as methodology, theoretical framework or literature review – all elements which are assumed to be important in order to meet the assessment criteria of a doctorate. Dissertations adopting an elaborated structure commence with an introduction but then include multiple additional chapters before moving on to the findings of the research and the conclusion. The additional chapters include aspects such as a literature review chapter, a chapter on methodology, at times stand-alone chapter(s) on the theoretical framework used in the study and so forth. In this sense, they subscribe more to the 'complex traditional' macrostructure (Paltridge, 2002). The way in which these additional chapters are included is also variable – for example, Dissertation 3 has three chapters on theory while Dissertation 4 has only one. These particular dissertations come from the same department from the same university, meaning that the variation is not necessarily subject or university specific. Some dissertations, such as Dissertation 15, do not include a theory chapter, while others, such as Dissertation 18, explicitly share chapters (for example, a chapter called 'Theory, Method and Methodology').

What is evident in the divide displayed in Table 4.1 is that the split between the two groups roughly corresponds with what is commonly known as 'social sciences' and 'humanities' writing. The inclusion of more discrete chapters focusing on the 'doing' of the research (seen in the more elaborated structure) *tends* to be more apparent in dissertations associated with the 'social sciences', while those adopting a simple structure *tend* to be associated with the humanities. Working only from a chapter structure level, it is apparent that not all dissertations

follow the assumed structure set up in thesis-writing guidebooks and as such, seem to be 'missing' many important features. Structures, however, can be misleading.

3.2. Unpacking the expected features of dissertations

When looking beyond the chapter level structure of the sample, it became apparent that the presumed 'missing' features, such as literature review and methodology, are in fact, often embedded (either explicitly, through sub-headings, or implicitly) elsewhere in the dissertation. For example, in Dissertations 9 and 10 (both anthropology), the candidates address theoretical and methodological concerns under separate explicit subheadings within the first introductory chapter. In Dissertations 1 and 22 (both history), candidates include explicitly sub-headed sections on the sources used in the study as well as a literature review in the introductory chapter. Other dissertations (such as 5, anthropology, 7, sociology and 4, psychology) give a brief overview of the whole study, including the theoretical concerns, the methodological approach adopted, the research questions as well as providing the reader with an argument for why the study is significant before outlining the rest of the dissertation. This shows how the expected components of doctoral dissertations may still be present, but the way in which the candidate chooses to structure the dissertation is variable, supporting findings similar to those of Paltridge et al (2012).

The sample also suggests that there is variation in how the different components are presented. For instance, the lengths of different sections within chapters as well as whole chapters themselves vary substantially in the sample. Some dissertations such as 3 (psychology) dedicate a substantial amount of space to the discussion of theory (three chapters) while others, such as 19 (English literature), provide only a few pages on this aspect. Others such as 14 (political studies) do not mention theory at all. Furthermore, some studies (such as 3, 4, 23, and 24, all psychology as well as 5, anthropology) include explicit description of how the theory is enacted within the dissertation, while others (such as 7, sociology and 22, political studies) describe their theoretical approach (in both cases, feminism) but do not elaborate on how the theory is used on a practical level, when analysing the data. For example, the author of Dissertation 3 provides a detailed explanation of how the interview transcripts were analysed using narrative-discursive method (Taylor & Littleton, 2006) and how Butler's (1990) theory of performativity was enacted to make sense of the data (interview transcripts). Here, the author

is explicitly describing the process involved in the analysis, including a number of steps that were followed:

> The first task involves attending to the discursive resources that are drawn upon in the accounts. This task essentially deals with the performative dimension of the narrative as the analyst considers how this particular account is resourced and constrained by larger discursive resources or scripts… One considers how the narrator has re-cited or repeated norms of gender, sexuality, race and so on (in the next task, one considers her or his positioning in relation to these).
>
> (Dissertation 3, p. 144)

In contrast to this detailed description of a specific theoretical and related methodological framing, the author of Dissertation 22 (political studies) describes how feminist standpoint theory is adopted in the study to 'privilege women's issues, voices and lived experiences' (p. 60). While the author acknowledges that there is 'no distinctive feminist methodology' (p. 60), she does describe how the chosen research design and methodology (qualitative thematic analysis and case study design) can be used to foreground the experiences of women in particular settings. She thus describes the theory as an 'epistemological intervention' (p. 61) rather than an overt practical framework which provides theoretical concepts which can be enacted on instances of data.

Dissertations also show similar variation when it comes to methodology. Some dissertations, such as 16 (sociology), include a highly-detailed methodology outlining what data were collected and how, as well as the specialist method (in this instance, shift-share analysis) used to analyse them. This detailed description comprises roughly 25% of the overall dissertation – a significant proportion. For example, the author provides explicit details of how each of the calculations in shift-share analysis are made, drawing on the tabled occupation statistics that she provides:

> The expected change in the number of people employed in an occupation between years 1 and 2. This is calculated as the difference between Column 3 and Column 1 (the expected number of people employed in an occupation in year 2 - due to overall labour force growth only - minus the actual number of people employed in an occupation in year 1). The expected number of managers in 2001 of 115,544-96,692 managers in 1980 = an expected increase in the number of managers of 18,852 between 1980 and 2001.
>
> (Dissertation 16, p. 49)

This is different to other dissertations, such as 21 (history), which includes only a few pages on the methodology used, focusing particularly on the collection of data rather than providing details on how it was analysed. Others, such as 11 (English literature) and 8 (African studies), make no mention of methodology at all. This suggests that even if the same expected components are included, the way they are written about and the space they occupy seems to vary substantially between dissertations. This finding supports Paltridge et al's (2012, p. 339) observation that some dissertations provide a more abstract 'conceptual methodology' while others include a more detailed practical account.

While all of the dissertations in the sample incorporate insights from literature in some form, how the 'literature review' is written varies substantially. As with theory and methodology sections, candidates can treat this section as a discrete part of the dissertation, either in a specific chapter or under a subheading, or they can subsume it within the broader narrative of other chapters. The focus of the discussion also differs. For example, in Dissertation 15 (sociology), the candidate foregrounds what other studies have revealed about the topic, for example:

> Other studies have documented that household economics – resource constraint or resource dilution factors – impact negatively on children's and young adults' enrolment chances (Anderson and Lam, 2003; Case and Ardington, 2004; Lewin and Sayed, 2004).
>
> (Dissertation 15, p. 20)

The candidate thus emphasises the existing knowledge produced from current studies to form a foundation of what is known, without foregrounding who carried out the research (i.e. the researchers) or the methods/approaches involved. Dissertation 19 (English literature), on the other hand, emphasises *who* (i.e. what scholars) has revealed what when discussing existing literature. For example:

> Kucich concurs with Levine in his assertion that, as an antidote to their own fragile faith, novelists of the early Victorian period attempted to "recreate a consoling sense of social wholeness through the secularization of traditional religious values", a process that is evident in the "providential love plots of Dickens, Thackeray and the early Trollope" as well as in the fact that the Victorian novel is a strongly moralistic genre.
>
> (Dissertation 19, p. 2)

Here, the candidate foregrounds what other scholars know about the topic rather than just what their studies have shown, as seen in the previous example from sociology.

Candidates can also foreground the way in which studies have been conducted by emphasising the use of specific methods, data and analytical procedures in existing studies. The object of the discussion is therefore to not only show what is known, but also how it has come to be known in order for the candidate to position the new study in relation to some kind of gap that they have created. For example, in 20 (history), the candidate foregrounds and critiques existing studies based on the type of data that has been used:

> Another limit of the literature is that it consists mainly of articles arguing about one particular aspect of land reform and/or rural issues, or it focuses on a range of issues but in relation to a single community or other type of political unit.
>
> (Dissertation 20, p. 17)

Therefore, some authors foreground *what* has been revealed, others foreground *who* has revealed it, while others emphasise *why* particular knowledge has been revealed (and the problems with this). These options also do not appear to be mutually exclusive. When looking across the sample, no clear pattern emerged which could account for these choices within or across subject areas.

Although all the dissertations in the sample, being empirical studies, include data chapters, how these chapters were put together differed. Some dissertations (such as 25, sociology) include only one chapter on findings (similar to the 'simple' traditional thesis structure described by Paltridge, 2002) while others (such as 2, history) provide seven chapters on findings. Some candidates, particularly in the case of many of the history (such as 1, 2, 20, 21) and anthropology dissertations (such as 17) discuss their findings using a more narrative flow of description, often following a sequence of events (similar to the 'topic-based thesis structure identified by Dudley-Evans, 1999). In this sense, particular sources are drawn on and are contextualised to describe a period of time or person or sequence of events in a particular way. For example, when discussing wildlife conservation efforts in Kenya during 1895-1975, the author describes how measures were put in place to control wildlife:

> By the early 1920s the Game Department had realised that conservation of wildlife was bound to attract little sympathy from African and European

> farmers/pastoralists unless something was done to minimise conflicts emanating from conservation policies.
>
> (Dissertation 2, p. 121)

This kind of narrative description is used throughout the data chapters in the dissertation. Other dissertations such as 7 (sociology) and 6 (political studies) include a lot of verbatim extracts from the interview transcripts gathered from participants. In the case of Dissertation 6, one of the data chapters includes close to 50% of verbatim extracts from participants. Others, such as 14, political studies, include many tables of summarised statistical data that are then explained by the candidate. For example, after presenting a table of statistical figures revealing levels of compliance shown by Southern African HIV/AIDS National Strategic Plans with Global Fund policies, the candidate then explains the implications of the numerical data:

> It is clear from these results that the average policy compliance in high burden countries is increasing. Table 3.1 and Figure 3.1 show the average scores for all eight countries over time. It is also clear that the change in compliance before 2003 to the period between 2003 and 2008 (T1 to T2) was a steeper change in compliance than the change from before 2008 to after (T2 to T3).
>
> (Dissertation 14, p. 65)

The pattern of moving between statistical presentations of data and explanations of those figures is evident throughout the data chapters.

Some dissertations, such as 24 (psychology), present their 'Findings' in one discrete chapter with little elaboration on the implications of the findings, before proceeding to explain those findings in a following 'Discussion' chapter. Others (such as 3, psychology and 5, anthropology) form a cyclical pattern of presenting findings and discussing the implications of those findings throughout their data chapters. For example, when discussing parenthood decision-making processes, the author of Dissertation 3 (psychology) interprets an extract taken from her interview transcript using the theoretical knowledge provided by Nyanzi et al.:

> In these extracts having children is construed as a more pressing issue for women owing to social and biological pressure. Not being subject to similar pressures means that men do not have to reflect on the issue until they are ready to do so, if at all. Nyanzi et al., (2005) propose that such rhetoric may mask young men's lack of reflection on the topic as well as their lack of knowledge and confidence.
>
> (Dissertation 3, p. 154)

This pattern of moving between data and theoretical interpretation is evident throughout the data chapters of this dissertation.

When it comes to the end of the dissertation, although all candidates included a conclusion, the form this chapter takes varies. Overall, most candidates include a summary of their main findings in the conclusion, inferring how the study has contributed something new to the field. Some dissertations include an overt explanation of how the study has made a significant contribution, including what kind of contribution has been made. For example, Dissertation 24 (psychology) claims to make a methodological contribution. This claim is made under an explicit sub-headed section of the conclusion. Other dissertations, such as 5 (anthropology) include an overt explanation within the broader narrative of the chapter, for example:

> In assessing the xenophobia-migrant masculinities nexus, the study also makes a contribution to the empirical work that has demonstrated how talk is profoundly productive in the generation of social identities and categories.
>
> (Dissertation 5, p. 10)

Other candidates, such as the author of 7 (sociology), demonstrate their contribution by showing what knowledge their study builds on and supports and how it extends existing findings on the topic:

> While the above confirms what other studies have found on the effects of SV on women in these countries (Puechguirbal, 2003; Burnet, 2008; Bartels et al., 2010; Maclay & Özerdem, 2010; Meger, 2010; Freedman, 2011;Liebling-Kalifani et al., 2011), this study also shows that SVAW is context-specific.
>
> (Dissertation 7, p. 198)

Other dissertations, such as 11 (English literature), include a more implicit demonstration, foregrounding what they have achieved in the study (often through the use of first person), rather than making an explicit argument about the contribution or linking out directly to the wider field:

> I have argued through this thesis that Coetzee's self-representations in his later fiction turn on an intimate negotiation of his relationship to South Africa, specifically an abiding sense of complicity with apartheid and the obligations he has felt as an acclaimed writer to speak *in propria persona* for a group or to a case.
>
> (Dissertation 11, p. 157)

The ways of writing a conclusion, particularly in demonstrating the contribution the study has made, can therefore take a number of different forms. As with many other parts of the dissertation, the distinction made in table 4.1, between *roughly* social science dissertations and humanities dissertations, does not account for the way in which candidates choose to write their conclusions.

Similar to the way in which the expected parts of introduction, literature review, theory, methodology and so forth are written, the way in which candidates refer to these components also varies. The sample shows that candidates use both literal, descriptive labels (such as 'methodology' and 'literature review'), metaphorical labels (such as calling what is essentially the methodology chapter 'A queer feminist 'jacket'' in 6, political studies) or a combination of literal labels with an accompanying descriptive theme can be used (e.g. referring to the literature review as ''International research into adolescent masculinity' in Dissertation 23, psychology). Such variation is evident in other samples of doctoral dissertations (see, for example, Starfield and Ravelli, 2006). Referring back to table 4.1, dissertations adopting an elaborated structure *tend* to use more literal labels than those adopting a simple structure, however, this was not a straightforward division, with multiple overlaps occurring across the sample.

Given the way doctoral dissertations tend to be discussed as homogenous and stable entities within thesis-writing guides, the lack of similarities across the sample of exemplary dissertations is surprising. It is perhaps even more surprising that this variation is not accounted for by subject-type (as variation is evident within subjects, even those from the same university), nor can it be accounted for using existing disciplinary writing 'types' such as 'social science' vs. 'humanities'. This is problematic for two reasons: first, by treating dissertations as fairly homogenous and straightforward texts, guidebooks tend to portray the different components of dissertations as discrete and uniform sections that can be easily identified and located. A brief character sketch of the exemplary dissertations included in the sample shows that this is not always the case. These core components do not, in fact, appear in uniform ways across all dissertations, nor do they appear in discrete and explicitly labelled sections. This is problematic, as if the aim is to analyse the basis of success in, for example, literature reviews, how does one know which section of the dissertation to analyse, seeing as though this component adopts a variety of different forms in dissertations?

3.3. Problematizing the use of preconstructed categories

The character sketch of the sample provided thus far has shown significant diversity of how dissertations get written. Furthermore, in attempting to account for or make sense of this variation, the description has suggested that existing writing classificatory systems cannot account for the diversity evident in the sample. These systems typically construct homogenous disciplinary 'types' of writing styles that often end up obscuring the complexity shown within these imposed disciplinary categories. 'Imposed' here is used to purposively highlight that writing 'types' based on disciplinary classificatory systems are problematic, as the disciplinary distinctions between subject groups are not natural – they have been artificially (and to a degree, arbitrarily) assigned to cluster subject areas by people or institutions who come to define 'what goes where', so to speak. Therefore, variations may (and indeed do) exist between one context and another. For example, at Rhodes University, history is housed within 'Social Studies', which is subsumed within the Faculty of Humanities. The University of Stellenbosch and the University of the Witwatersrand have similar structures. The University of Cape Town, however, houses history within the sub-division of 'Arts' within the Faculty of Humanities, not 'Social Sciences'. This variation shows how the allocation of disciplines into institutional 'homes' is not uniform or consistent – a finding consistent with other studies of doctoral writing in Australia such as Starfield and Ravelli (2006). Therefore, allocating the writing features of dissertations according to these writing systems is problematic: what is 'social science' in one context might be considered 'humanities' elsewhere.

Bourdieu (1992) warns of the dangers of taking for granted 'preconstructed categories' in research (p. 251). He explains how, over time, common-sense understandings, which are often based on assumptions, 'present themselves under the cloak of the self-evident which goes unnoticed because it is by definition taken for granted' (Bourdieu, 1992, p. 251). These understandings give rise to preconstructed categories, such as 'social science' and 'humanities' that are simply taken for granted as self-evident and clear when their meanings are part of what is contested. When looking at (even a relatively small) sample of dissertations, the variability shown across and within these categories shows how these preconstructed labels cannot provide an adequate basis for dividing up different styles of doctoral dissertations into different writing systems. It has also shown how the common-sense assumptions set up about the core components of dissertations in guidebooks suffer the same feat: what constitutes as a 'literature review' in one dissertation might be constructed entirely differently in another, including the

name by which it is referred. This again, raises the problem of how doctoral dissertations can be deconstructed into their core components, analysed, and eventually taught. What is needed, therefore, is a way to characterise doctoral writing that is premised on inductive reasoning rather than preconstructed categories. This forms the focus for the remainder of the chapter.

4. DEVELOPING A SCHEMA FOR DOCTORAL WRITING

In an attempt to look beyond preconstructed categories, this section draws on the empirical description of the sample to uncover the basic building blocks of dissertations. The description is premised on a set of simple points regarding the key requirements that a doctoral dissertation needs to address in order to be worthy of the degree. It is used to create a schema for doctoral writing that enables a way for dissertations to be reconceptualised outside of preconstructed categories, assumed structures and labels. It also allows dissertations to be conceptualised as a set of relatively autonomous core parts rather than homogenous wholes. The inductive schema provides an analytical foundation for dissertations to be better understood and from which pedagogical implications can be established. The schema comes to form the basis of the theoretical analysis undertaken in Chapters 6, 7 and 8.

4.1. Establishing the core components of doctoral dissertations

The description of policy in Section 2 provided a broad sense of what a doctoral dissertation must entail in order to meet the criteria for the award of the degree, namely: demonstrating familiarity with the field, using appropriate research methods and making a substantial original contribution to knowledge. When considering how exemplary dissertations meet these criteria, the character sketch of the sample in Section 3 revealed considerable variation. It also, however, identified a number of core features that candidates need to address; immaterial of how they do that in practical terms. These include writing about:

- what is already known in the field
- what has been contributed to that which was already known
- how the acquired knowledge has been accessed, in terms of
    - how the data were gathered
    - how the data were analysed

- what new knowledge has been produced

Despite these features broadly relating to assumed parts such as 'literature review' and 'methodology', conceptualising them as a series of core features or 'components' allows for more diversity in form and structure to be accommodated and it enables a way to understand dissertations that does not rely on presumed structures and labels.

The questions outlined above are portrayed as the five 'core components' of doctoral dissertations in the schema for doctoral writing. In the same order as they typically appear in dissertations, the five core components include:

- establishing a rationale;
- explaining the phenomena being studied;
- explaining how the phenomena were studied;
- constructing findings; and
- demonstrating an original contribution to the field.

The use of active verbs for describing these components is intentional: they are used to emphasise that these components of the dissertation are not stable or pre-existing entities. Rather, each candidate constructs these different parts within the dissertation through a series of choices. While they may not appear in uniform ways, they are all present in one form or another in all the dissertations included in the sample. Drawing on these exemplary dissertations, each of the five core components are described in turn.

4.1.1. Establishing a rationale

All candidates, regardless of topic or choice of approach, need to address the examinable criteria of demonstrating 'familiarity with the field'. This criterion is reconceptualised within the schema as the process of establishing a rationale for undertaking a study. This is typically done near the beginning of the dissertation by contextualising the study within the broader field. Candidates do this by drawing on existing studies to show what is already known about the phenomena or topic. From this foundation of 'known knowledge', the candidate will then typically create some form of 'gap' in the field. The form this gap can take varies substantially, for instance candidates can demonstrate a need for further research into a neglected topic while

others might demonstrate the need for a new approach in order to generate different findings. Immaterial of what kind of gap is created, literature is typically drawn on to substantiate claims about what is known or is critiqued by the candidate in terms of its limitations. In relation to this review, the candidate will then typically position the new study in relation to whatever kind of gap he/she has constructed.

When constructing a rationale candidates can choose to write it in a discrete section of the dissertation (such as a chapter) or they can incorporate it within the broader narrative of their introductory chapter. They can also refer only to empirical studies or they can include issues relating to empirical findings as well as conceptual concerns. Depending on the kind of gap they want to highlight, different aspects of existing research can be foregrounded in the discussion – i.e. methods, the perspective used such as theoretical frameworks, objects of study, who the researcher is and so forth. Candidates can also make overt claims and criticisms about existing literature or they can implicitly align with certain ways of thinking and doing and dis-align with others. Immaterial of what candidates choose to highlight in their discussion and how they present it, all dissertations will involve some kind of engagement with existing knowledge in the field in order to demonstrate their familiarity with it, as well as construct a space in which to position the new study.

4.1.2. Explaining the phenomena being studied

The first step involved in meeting the criteria of demonstrating 'appropriate research methods' is to include a description of what phenomena are being studied. All the dissertations in the sample included some explanation of the 'materials' used in the study. Materials found in the sample included narrative accounts of illnesses, interviews with female survivors of sexual violence in war zones, numerical occupational data, rock paintings and engravings, select photographs, novels and artworks, among other things. How candidates choose to explain their materials varies substantially with some opting to describe in detail (i.e. over the course of a number of pages of text) the selection and collection process involved, while others mention this only in passing. Some candidates choose to include this aspect in a discrete section of the dissertation, often referred to as 'data collection', while others include this description in the introductory chapter – either under a subheading or woven into the broader narrative. Regardless of how they choose to structure their discussion or how much detail they give about

the actual materials and how they were collected, candidates will always include explicit mention of what materials form the basis of the study.

Once the candidate has explained what materials are included in the study, he/she will also typically justify why they have been used. Again, there are a variety of choices available to candidates in how to go about this. For instance, candidates can justify using specific materials because they have otherwise not been used in existing studies, or they may claim that they are necessitated by the approach that is being used. Candidates may also include materials based on a personal connection to them that they wish to explore in academic research, and so forth. Despite the variety of available options, candidates will typically relate their choice of materials to their broader research aims, which have usually been outlined in the construction of their rationale.

4.1.3. Explaining how the phenomena were studied

The second step in demonstrating 'appropriate research methods' is to describe what was done to the materials in order to generate new knowledge. All dissertations in the sample include some kind of explanation of how the phenomena were studied. Candidates can choose to enact this component in a number of different ways. For instance, candidates can include an explicit and detailed description of each stage of the analytical process, describing each step that was undertaken and the reasons informing the decisions. Alternatively, candidates can choose to include more implicit and brief portrayals of how the materials were interpreted and understood. For instance, candidates can mention the kinds of themes that inform the analysis or they can describe the broad perspective used to understand the materials. Where this component gets included in the dissertation also varies with some candidates locating it in a discrete chapter (often labelled 'methodology') or in the introductory chapter under an explicit subheading. Other dissertations include brief mention of the methods in the broader narrative of the introductory chapter. The length of description can also vary between a few lines of text and whole chapters. The variation found within this component of the dissertation highlights that what makes for 'appropriate research methods' is subjective – what one subject regards as appropriate may be completely inappropriate to another. Whichever way candidates choose to write about their methods of analysis (used in the broadest sense of the word), there will typically always be some reference made to how the materials were understood in the research.

4.1.4. Constructing findings

The examinable criterion of 'making a substantial original contribution to knowledge' is broadly related to the final two components of the dissertation. The first step involves using an 'appropriate research method' to make sense of the materials in order to construct new findings about the chosen phenomena. All empirical research involves some form of understanding – whether that be interpreting 'raw' materials, presenting materials in a particular way, drawing implications from materials and so forth. Constructing findings is what components one to three prepare for, and from which component five is based. It is arguably the 'meat' of the dissertation, where the candidate has to convey their intellectual finesse to turn 'raw' materials into new objects of knowledge. This can be done in a variety of ways, such as by providing rich description, or using theory to interpret instances of materials, or using a specialist methodology to calculate statistics, and so forth. Constructing findings can form a substantial part of the dissertation, or it can be limited to a single (typically lengthy) chapter. Despite the means of understanding (such as the use of specific methods, theoretical frameworks or perspectives) being variable, as well as the use of different structures and lengths, all dissertations will construct findings by generating understandings of 'raw' materials and applying those insights to the broader field.

4.1.5. Demonstrating an original contribution to the field

The second step in demonstrating a substantial original contribution to knowledge is to show, at the end of the dissertation, how the findings that have been constructed have contributed original knowledge to the field. This is typically done in the concluding chapter which summarises the main findings and typically links these to the broader field – either by showing how they support and extend existing knowledge or how they refute and challenge existing knowledge. Depending on what the study has revealed, candidates can foreground a variety of different aspects of the research as their contribution, for example, a new object of study, a new perspective on an existing topic, a new way of understanding and so forth. Typically, the contribution will mirror the rationale the candidate established at the beginning of the dissertation – i.e. if a candidate constructs the rationale based on the fact that a new way of understanding a topic is necessary then it is likely that their contribution will be based on providing such a perspective. Candidates can also choose to make explicit claims about what new knowledge they have contributed or they can make more implicit arguments about what

the study has revealed. Regardless of what candidates choose to write about, all will, in some form, demonstrate what the study has revealed about a specific topic that makes it an original contribution.

4.2. Making sense of the variation

The character sketch of the sample of exemplary dissertations reveals that there appear to be seemingly endless ways of writing a dissertation. Describing exemplary dissertations is useful for generating some broad characteristics of each of the core components, as well as showing the many ways in which candidates go about writing particular components. It does not, however, reveal a conclusive pattern across the sample that can explain *why* the variation occurs – i.e. it has no way of making sense of the principles underpinning these choices. Therefore, in an attempt to move away from preconstructed categories and writing classificatory systems, what results from inductive description is an endless list of the many choices available to candidates.

Despite this, however, using the inductive schema to divide dissertations into core components is a useful starting point to reconceptualise the dissertation as active parts rather than 'wholes' that abide by the same rules throughout. This allows for flexibility to account for what candidates actually do, rather than imposing a set of assumptions and relatively fixed rules on doctoral writing. However, in order to sufficiently engage with the diversity and complexity of doctoral writing, a way of understanding which can look beyond what candidates write about and rather analyse the organising principles that give rise to the myriad choices, is needed. The remainder of this thesis provides such an understanding using select concepts from LCT.

5. CONCLUSION

This chapter has attempted to 'return to basics' by starting with the definition of a doctorate, as stated in policy and university rule books. Working from these criteria, it has considered how thesis-writing guidebooks advise candidates on how to write the dissertation, as well as more theoretically-informed literature that contradict much of this advice. The insights gained from this literature revealed how many common-sense assumptions are created by oversimplifying dissertations on the one hand, and imposing prescribed writing systems on

dissertations on the other. An inductive character sketch description of the sample of exemplary dissertations revealed that these assumptions often obscure features of dissertations – including both what features get included and how these parts of the dissertation are written.

In an attempt to move away from preconstructed categories and assumed 'norms' of dissertations, the chapter developed a schema for doctoral writing based on examinable criteria and the inductive description of the sample. This allows for dissertations to be reconceptualised in terms of their 'core components' and provides a starting point to understand the complexity of doctoral writing. The chapter also revealed, however, that in order to make sense of the variation evident within the schema, specific analytical tools from LCT, which can analyse the bases of the knowledge-building practices, are needed.

Drawing on the dimension of Specialization, Chapter 6 provides an analysis of the overarching strategies candidates use when constructing the core components outlined in the schema. In particular, it uncovers some generalizable principles that form the bases of the knowledge-building practices that give rise to the diversity evident in the sample. This more macro analysis is then extended in Chapter 7 and 8 where Semantics is used to provide an added level of 'analytical zoom' to analyse the knowledge-building practices enacted in the 'constructing findings' component in more detail. In analysing the organising principles of knowledge-practices, the analyses presented in the remainder of this thesis provide the foundation for pedagogical implications of doctoral writing to be established.

CHAPTER 6
STRATEGIES FOR DEMONSTRATING KNOWLEDGE: Unpacking the schema

1. INTRODUCTION

Chapter 5 provided an overview of the characteristics a doctoral dissertation must exemplify in order to be awarded. From national and institutional policy as well as thesis-writing guides, the chapter identified a set of generalised requirements for a doctorate, including:

- making an original contribution to a field;
- demonstrating sufficient acquaintance with the literature of the field; and
- using appropriate research methods.

Despite dissertations often being represented in thesis-writing guidebooks and literature on writing as relatively straightforward, stable entities, the initial review of the sample of 25 exemplary dissertations used in this study showed that there are seemingly endless ways to fulfil these requirements. The overview also revealed that this variation was not necessarily informed by discipline or even subject area.

This chapter attempts to start to make sense of this seemingly endless variability so that a foundation for pedagogic and research implications can be established. It does this by focusing on the five 'core components' inherent in doctoral dissertations, as identified in Chapter 5, including:

(i) establishing a rationale for conducting the research
(ii) explaining the phenomena being studied
(iii) explaining how the phenomena were studied
(iv) constructing findings, and
(v) demonstrating an original contribution to the field.

How candidates 'speak' to each of these core components differs vastly. For instance, 'sufficient acquaintance' with 'appropriate' methods may be demonstrated by using a sophisticated quantitative methodological tool or by using qualitative methods. Within

qualitative studies, a theoretical framework could be used to inform the methodology and analysis, or the study could adopt a hermeneutic approach. Studies may foreground the use of a specific approach (such as a specialist method or theory) as an 'appropriate method', while others may foreground their own lived experience as giving them the authority to understand particular phenomena. These myriad choices cannot be accounted for with 'cookie-cutter' or 'one-size-fits-all' rules, hence the general requirements. This is both a necessity, as requirements need to accommodate diverse forms of disciplinary knowledge-building practices, and it is a conundrum, as there is no clear direction for new candidates to follow or practical insights to inform doctoral writing pedagogy.

This chapter uses Specialization to analyse the organising principles that give rise to the myriad different ways of writing doctoral dissertations – as presented in the sample of dissertations used in this study. The analysis presented here is thus purposely theoretically driven as it is intended to generate pedagogic foundations. While the use of theory is argued to be necessary to analyse the knowledge-building strategies used within each core component, the components themselves are inductive. The aim of the analysis presented in this chapter is therefore less about revealing *what* candidates write about in terms of content (i.e. the *focus* of the text), and is more about *why* they have written in particular ways (i.e. the *basis* of the text). Adopting this aim the theory is able to reveal and articulate generalizable techniques that candidates use across subject areas and disciplinary fields, rather than producing a further list of endless unique features according to preconstructed categories.

2. ESTABLISHING A RATIONALE FOR CONDUCTING THE RESEARCH

The first core component found in dissertations is establishing a rationale. All candidates, regardless of subject area or topic, need to establish a reason for having undertaken their study. It is here that the author of a dissertation has to motivate for legitimacy for the existence of his/her research. The choices made by the candidate when forming a rationale at the beginning of the dissertation inform and shape the rest of the text, culminating in the final section of the dissertation where the candidate typically reflects back on this rationale when demonstrating their contribution. To create a rationale, a candidate will typically construct some kind of 'gap' (which could be theoretical, methodological, a lack of existing research, a lack of the right kind of people undertaking the research, and so forth) at the start of the dissertation. Typically,

literature is drawn on when establishing this gap to build an argument about what is known about a phenomenon and what is not known, and at times, why it is not known. Once this gap has been established through a series of arguments, the candidate then justifies the legitimacy of the new study in relation to the perceived gap.

To understand how candidates construct different kinds of rationales, Specialization is used. Specialization works on the simple premise that all practices are oriented towards something and are enacted by someone – therefore all practices involve, to varying degrees, relations to objects and to subjects (Maton, 2014b). These different kinds of relations can be explored through an analysis of *epistemic relations* – between knowledge and its proclaimed objects of study – and *social relations* – between knowledge and its authors or subjects (Maton, 2014b, p. 29). Practices will always have *both* epistemic relations *and* social relations – both sets of relations can be strengthened at the same time, one set may be foregrounded over another, or both sets of relations can be downplayed. Of interest in this analysis is to understand how and when different relations are emphasised and the effect this has on the knowledge practices.

When candidates foreground epistemic relations in establishing their rationale, they tend to emphasise 'what' can be described as knowledge. This is typically done by foregrounding knowledge practices such as specialist methods or theories that are used to generate findings, or by emphasising new objects or phenomena to be studied (i.e. previously un-researched topics). When candidates foreground social relations, they tend to emphasise 'who' can be a legitimate knower in a given field by highlighting particular subjects, authors or actors and their personal characteristics, such as class, race, gender, or particular interactions with others that have shaped their ways of thinking.

Dissertations in the sample in this study tend to foreground either epistemic relations or social relations when constructing their rationale: that is, they either foreground specific approaches for generating findings or the fact that they are studying a new topic as the basis for their rationale, or they emphasise their own knower characteristics deemed necessary for undertaking the research as the basis for their rationale. Despite it being theoretically possible to foreground both epistemic relations and social relations, this was not the case in the sample. Those that tend to emphasise epistemic relations are described as enacting 'epistemic strategies' and those that emphasise social relations are described as enacting 'social strategies'. In order to gain a more nuanced understanding of each kind of strategy, the 4-K

model is used. This model provides a layer of theoretical delicacy to analyse a further sub-set of generalizable strategies that candidates use to establish different kinds of rationales. These are explained below.

2.1. Epistemic strategies

Epistemic strategies which foreground epistemic relations to objects of study and other knowledge can be further divided into two sub-categories of 'ontic strategies' and 'discursive strategies'. Ontic strategies refer to instances where candidates foreground a new (previously unstudied) topic as the basis of their rationale, thus emphasising *ontic relations* to existing objects of study. By emphasising these relations to establish a rationale the candidate can emphasise the lack of 'that which is known' – the object of study – from the field. The candidate can then position the new study as filling this ontic 'gap'. Alternatively, when enacting discursive strategies, candidates emphasise the need for a new theory or method for generating findings as the basis of the rationale. In doing so they emphasise *discursive relations* to other knowledge, such as procedures for generating knowledge (i.e. constructing findings) in a field. By emphasising procedures or, more likely, a *lack* of appropriate procedures for generating knowledge, the candidate can then make a case for why the approach used in the new study is better suited than those in existing studies. Dissertations can also enact both ontic strategies and discursive strategies when establishing a rationale, allowing the candidate to emphasise both *what* is studied *and how* it is studied as being important.

2.1.1. Nature of topics

When candidates foreground the fact that they are researching a new topic, ontic strategies are enacted which emphasise ontic relations to existing objects of study. This is typically achieved by discussing existing studies in terms of what research has revealed about the topic. The candidate uses this review to build a foundation of what is already known about the topic, allowing him/her to then make an argument about what has yet to be explored. For example, in a history dissertation that provides a political biography of ANC activist Henry Selby Msimang, the candidate explicitly argues that the study is legitimate on the basis of it providing a new topic to the field. The candidate does this in three steps: first, he claims that Msimang has been excluded or marginalised in existing South African political history because of his unorthodox views – hence not making him a favourable subject of historical analysis:

> The primary aim of this thesis is to examine the complexities in the political career of Henry Selby Msimang… Further, it seeks to investigate why he has been neglected in the writing of South Africa's history of the liberation struggle. It argues that his neglect was due to his ambivalence regarding radical trade unionism, his opposition to communism, his participation in various levels of native representation, embracing of liberalism and his eventual decision to join Inkatha.
>
> (Dissertation 21, p. 2)

The candidate therefore foregrounds a 'gap' in terms of an absent object of study and positions the new study as a remedy to fill such a gap. This argument is explicitly summarised later in the introduction by the candidate claiming his study is the first doctoral thesis on Msimang (p. 7).

Second, the candidate draws on the few existing studies on the subject to help explain why there is a lack of research on Msimang as an object of study:

> Aitchison was concerned that internal struggles within the ANC had not been properly recorded as most of the organisation's written history came from the Marxist perspective, and tended to downplay the contributions of people like Msimang, who had liberal inclinations.
>
> (Dissertation 21, p. 10)

By drawing on existing literature and sources in this way, the candidate is then able to build a rationale for the study on the basis that it is not just a passive 'gap' in the field – it's an urgent absence that must be filled:

> Despite having accessed the above-mentioned primary and secondary sources, the dearth of a body of primary sources specifically dedicated to Msimangs life history poses a challenge. This thesis is intended to deal precisely with that challenge and also to generate interest in his political career.
>
> (Dissertation 21, p. 13)

Therefore, the candidate not only shows that the topic is absent from the field but also claims why it is absent and why it is worthy of study. In doing so, he enacts ontic strategies when establishing the rationale that emphasise ontic relations to existing objects of study.

2.1.2. Approaches to topic

When candidates foreground approaches used in existing research, particularly highlighting their limitations, they are enacting discursive strategies. Such strategies emphasise discursive relations to procedures for generating objects of knowledge. The new study is therefore positioned as providing an alternative approach that is able to overcome the perceived limitations of existing approaches. 'Approach' can relate to problematic theoretical perspectives or methodological approaches used in existing research. Some studies, such as Dissertation 4, foregrounds both a theory (e.g. critical disability studies) and specialist method (e.g. Q-methodology) when justifying the new study. This is typically done when a theory is deemed appropriate in order to analyse the findings generated by the method.

An example of a dissertation foregrounding a theoretical shortcoming is evident in a psychology dissertation on parenthood decision-making. In order to foreground theory, the candidate makes an argument about what existing perspectives are useful for showing – for instance, she argues that the 'gender perspective' is successfully able to connect issues of gender to parenthood (p. 45). Second, she shows why such perspectives may be limited. For example, the candidate argues that existing perspectives either focus on the wrong kind of participant, or have been influenced by theoretical frameworks that prioritise certain objects of study above others:

> Research that explicitly connects gender constructions and parenthood continue this problem-oriented approach and tends to concentrate on men who are already fathers, especially economically disadvantaged "Black" men. In addition, much of this work is conducted within, or influenced by, men and masculinities studies and hence men form the focal point of research and women and their perspectives are often side-lined.
>
> (Dissertation 3, p.45)

In doing so, the candidate constructs a problem relating to discursive relations by arguing that the theoretical approach used in existing studies is the reason why certain findings about the phenomenon have not been uncovered. Using this argument as the groundwork for the rationale, the candidate creates a space in which she can make a case for an alternative approach (for example, Butler's (1990) theory of performativity). The new theory is then justified in

relation to what it can do that other theories (such as critical masculinities studies) cannot achieve:

> Significantly, she [Butler] repudiates the foundation of sex/biology, which seems to creep in the back door in critical masculinities studies… Furthermore, for Butler, identity is always bought at the price of the exclusion of the "Other". This view of identity as difference allows for an understanding of gender as thoroughly relational. This, as I have argued, is a crucial aspect that is for the most part neglected by many critical masculinities scholars.
>
> (Dissertation 3, p. 72)

The candidate thus enacts discursive strategies to build a rationale by foregrounding discursive relations in three key steps: first she shows what existing frameworks are useful for understanding; second, she problematizes these frameworks by making an argument about their limitations; and third she justifies the use of a new framework as a solution to the limitations she has outlined.

An example of an emphasis on methodological approaches used in existing studies can be seen in Dissertation 14 from sociology looking at African countries' HIV/AIDS policy-making practices. In this dissertation, the candidate creates a methodological 'gap' by arguing that existing methodological approaches cannot adequately define and test political commitment and good AIDS governance in research due to a lack of an appropriate 'measurement tool' that can assess political commitment (p. 34). This allows her to first create a specific discursive gap in the field to show what is missing, and second, it enables her to position the new study in relation to this gap. To do this, the candidate first draws on current literature to outline existing tools that have been used in studies:

> Bor (2007) uses the 'political support' component of the 2003 AIDS Program Effort Index (API). There are also other suggested measures of political commitment such as the United Nations General Assembly Special Session on HIV/AIDS (UNGASS) Declaration of Commitment Indicators and the AIDS Policy Aggressiveness Indicators (Lieberman, 2011).
>
> (Dissertation 14, p. 34)

In relation to these past approaches, the candidate then proposes a new 'indicator' that is argued to supersede these existing measurement tools in that it not only measures good AIDS governance, but can also take into account additional variables (e.g. the contextual factors that support that governance):

> Building on existing efforts, this study develops a new indicator – the level of domestic AIDS policy compliance with global protocol. I have developed a new measurement tool for assessing political commitment, which may contribute towards research efforts to understand what good AIDS governance is, and what contextual factors make certain types of governance more likely.
>
> (Dissertation 14, p. 34)

In focusing on the limitations of methods used in existing research the candidate enacts discursive strategies which enable her to emphasise discursive relations to other knowledge by first creating a methodological 'gap', before legitimating the new study on the basis of filling such a gap.

2.1.3. Combining epistemic strategies

When establishing the rationale of a new study, candidates can enact both ontic and discursive strategies to make the argument that the study is worthy because it contributes an object of study that is otherwise absent from the field *and* because it offers a novel approach – i.e. both ontic relations and discursive relations can be emphasised. For example, in a sociology dissertation on patient experiences of fibromyalgia, the candidate builds a rationale based on the fact that she is contributing a new object of study through using a specific method. To achieve this, the candidate enacts ontic and discursive strategies to: establish what is known about the topic; to argue for what is missing and what is needed in order to fill this 'gap'; and to demonstrate how the use of a specific approach can fill the 'gap'. For example, the candidate uses a discussion of literature to outline what is known about the topic and what is missing from the field:

> While there is a growing body of literature being produced by South African researchers, most of the studies reported upon are concerned with clinical guidelines for diagnosing, managing and treating fibromyalgia and other conditions… However, there is no engagement in any of these studies with the actual illness experience as it manifests in a specific social reality, and the perspective of the patient is absent entirely.
>
> (Dissertation 25, p. 5)

The candidate thus acknowledges that while research on this topic exists, the studies are limited by the fact that they have excluded an important aspect of the topic – in this case, the patient experience. Using this as a foundation, the candidate then argues why this is a problem for the

field, highlighting that existing findings cannot be converted into useful resources for various actors in the field:

> However, there is also often an inability to convert these descriptions into useful, relatable explanations that practitioners, patients, and other social actors can draw upon in developing narratives of fibromyalgia experience.
>
> (Dissertation 25, p.16)

The candidate thus emphasises ontic relations to objects of knowledge by claiming that her chosen topic is otherwise absent from the field. Building on this rationale, the candidate then makes a case that a study of patient narratives is key to producing this knowledge. Following this argument for a new focus, the candidate then moves to foreground discursive relations by emphasising the specific type of approach that is needed in order to carry out this research:

> This study adopted Nettleton et al's (2004) analysis of Frank's (1995) narratives of illness, namely restitution, quest and chaos narratives. This was because the focus of this study speaks to those people who are unable to successfully adhere to a restitution narrative and are then forced into quest and chaos narratives to explain their illness experiences.
>
> (Dissertation 25, p. 33)

The candidate then claims how the use of this specific method enables her to generate key findings otherwise missing from the field:

> Gaining innovative perspectives on the challenges of addressing these divergences in the course of the illness career of fibromyalgia patients was achieved through an exploration of narratives of those living with condition, and is explained throughout this thesis.
>
> (Dissertation 25, pp. 41–42)

Here, the candidate is foregrounding discursive relations to procedures for constructing objects of knowledge. In doing so, the candidate has not only justified the new study on the basis of contributing a new object of study to the field – achieved by enacting ontic strategies – but she has also foregrounded the use of a specific approach when establishing the rationale – seen in the paralleled use of discursive strategies. The rationale for the study is therefore based on 'purist insight', where both ontic relations and discursive relations are emphasised.

2.2. Social strategies

Social strategies emphasise social relations between knowledge and its authors or subjects. These include strategies that emphasise an ideal knower of a topic by highlighting particular personal characteristics such as race and nationality (e.g. Dissertation 8). Such rationales enact 'subjective strategies' which emphasise *subjective relations* to legitimate types of knowers of phenomena. Alternatively, candidates who emphasise that their specific perspective or 'gaze' is necessary in order to engage with particular phenomenon are said to be enacting 'interactional strategies' which emphasise *interactional relations* between ways of knowing when establishing the rationale. This could include prolonged engagement with the ideas of 'significant others' (e.g. particular scholars or bodies of knowledge, such as feminism) which come to shape the candidate's ways of understanding particular phenomena. Some dissertations (e.g. Dissertation 6 or 10) may enact both subjective and interactional strategies by emphasising *who* the candidate is and *how* they have come to know.

2.2.1. Voices

When candidates emphasise that they are a legitimate knower of their topic, subjective strategies are enacted which emphasise subjective relations to other knowers. For example, the author of an African studies dissertation builds an argument for conducting her research on the experiences of displacement during apartheid by foregrounding who she is as a knower. She does this by closely connecting what she is studying (photographs) to the lived and future experiences of her and her immediate family:

> Am I overly ambitious when I ask these images to assuage my past and to attend to my future and that of my son – as we navigate our lives in a world that puts price tags on our skins? Am I looking to these images to end my search for relief from disrupted landscapes and lives?... I am hoping that these images may attend to the injuries of my past and free me from the rigid strictures of composition I experience…
>
> (Dissertation 8, p. 14)

The type of 'knower' that is deemed appropriate for this specific topic is further emphasised when the candidate states that the 'story' (the topic of her research) is essentially tied to a black person's experience – particularly a South African black person's story:

> This story therefore is fundamentally a 'black' story, with all the attendant violence and trauma that is embedded in the 'black' body. The study will therefore try to understand how the family album of a 'black' family may be engaged as a forum; as a transactional site of translation, and in so doing, will strive to present my imaginings of how freedom may yet look in South Africa.
>
> (Dissertation 8, p. 16)

Here, the issue to be explored is constructed as something that requires a legitimate knower – i.e. the research needs to be conducted by the 'right' kind of person. In this sense, a white middle-class Australian researcher, for instance, would not hold as much (if any) authority to tell this story – the knowledge they would produce would not hold as much legitimacy as the kind of knower established here.

The use of subjective strategies which emphasise an ideal knower are also evident in how the literature is discussed. For example, when discussing the work of Fanon, the candidate foregrounds who he is as a person (rather than focusing solely on his scholarly work) by detailing the fact that he is a 'black' man whose perspective has been shaped by the racialised treatment he has been subjected to during his life:

> As a 'black' man, whose life work and experiences underscored his being, Fanon articulates the invention of the human, and is preoccupied with the question of the 'black' body not being human.
>
> (Dissertation 8, p. 20)

The candidate therefore uses existing studies to foreground the kind of knower who will be able to make sense of the issue to be explored because of the experiences they have endured due to race, social class and nationality. The new study is then positioned as providing a perspective from such a legitimate knower.

2.2.2. Ways of knowing

When candidates emphasise their particular perspective or gaze as the basis of the rationale, interactional strategies that emphasise interactional relations between legitimate ways of knowing and the topic are enacted. Unlike discursive relations (enacted through discursive strategies), which emphasise 'approach' by foregrounding epistemic relations among knowledge, such as theoretical frameworks or specialist methods, interactional relations

emphasise ‘approach’ by foregrounding social relations among individual ways of knowing. Candidates typically foreground interactional relations in dissertations by drawing on particular key thinkers in the field to align (intellectually, morally, politically and so forth) to a particular way of seeing the world rather than taking and enacting concepts from a specific theory or method (they may well use concepts as well, but the emphasis is placed more on alignment).

For example, the author of an English literature dissertation that examines the influences of theatre and religion in Victorian novels builds an argument for conducting the new research using interactional strategies. These strategies enable the candidate to construct a claim that a more legitimate gaze is needed to fully engage with the topic. She does this by aligning herself to particular significant others – in this case, key scholars – by indicating how the work of these scholars has shaped her understanding of the topic. In this example, the ‘significant others’ are key contemporary critics, Turner and Girard:

> Although my emphasis is empirical, the studies of certain writers who are concerned with theatre and ritual have been useful in shaping my argument. Ritual has been the subject of significant anthropological studies such as Victor Turner's discussion of rites of passage or what he terms the “liminal” condition, and René Girard's work on the concept of triangular desire.
>
> (Dissertation 19, p.11)

Following the argument for how these significant others have shaped her gaze, the candidate then dis-aligns with other aspects of their thinking, for example:

> René Girard’s thought has provided me with some insight into the false rituals of rivalry enacted by Lucy and her enemies in *Villette* (1852), but his argument ultimately follows different lines to mine. This is also true of Hans Urs Von Balthasar’s comments on the nature of drama: while he acknowledges the connection between the spiritual and the dramatic, he is wary of taking this much further, subordinating it to theological concerns.
>
> (Dissertation 19, p. 16)

By constructing an argument around which ideas of significant others have been included and excluded in the study, the candidate constructs a particular type of gaze that is implicitly argued to be necessary for understanding the topic. In doing so, she legitimates particular ways of knowing. Furthermore, by recognising the legitimate gaze, the candidate thereby demonstrates

the legitimacy of her own gaze, in that she has that cultivated gaze.

Another interactional strategy to legitimate a particular gaze is to dismiss other ways of knowing in existing research – a common feature in history dissertations when arguing why a new study is better than existing ones. This is achieved by discrediting existing research in relation to the way it was conducted – however, the basis of the criticism is not linked to the use of an inappropriate method or theory (which would foreground epistemic relations and discursive relations in particular), nor is it criticised in relation to the kind of person doing the research (based on social categories, which would emphasise subjective relations). The emphasis, rather, is placed on how the topic has come to be known by individuals – seen in the foregrounding of interactional relations.

For example, in a history dissertation on South Africa's land reform, the candidate enacts interactional strategies when discussing existing literature in order to discredit particular scholars, while showing alignment with others – based on their specific ways of knowing. She does this by first providing a general overview of existing studies, establishing what is known about the topic and what is not known. She then uses this discussion to establish a 'gap' in the field – based on what people have or have not done. For example, she claims that 'no-one has yet provided a systematic investigation' of her chosen topic on the historical processes of land distribution (Dissertation 20, p. 17). The candidate then claims that the new study adopts an approach that is able to overcome this limitation, indicating that she is able to look beyond the narrow focus on specific groups of people that is found in existing research:

> I also take a different perspective from others, by looking at the way that individuals and families within a wide region accessed land over the course of a century, rather than focusing in on specific kinds of groups, for example chieftaincies, ethnic groups, specific homelands and reserves or farm labour tenants.
>
> (Dissertation 20, p. 22)

Furthermore, the candidate claims that her approach is superior to other researchers (such as anthropologists) by arguing that the way these scholars have treated aspects of the topic are not legitimate because they do not embody the right kind of (historical) gaze:

> This group of anthropologists all had different approaches to the discipline of

> anthropology and the notion of tribe. Some anthropologists have been criticised for being time-bound and ahistorical. The description of 'tribes' can be problematic and is often more about the anthropologist or ethnologist's desire to categorise people than a reflection of the identities of the people they describe...
>
> (Dissertation 20, pp. 22–23)

Following this dis-alignment with particular ways of knowing, the candidate then goes on to show which authors she does align to, and why – linking this argument to the kind of gaze they espouse:

> E.J and J.D Krige, whose work I use fairly extensively, were however more sensitive to historical change.
>
> (Dissertation 20, p. 23)

The candidate is therefore actively problematizing the fact that research produced by particular anthropologists on similar topics is inadequate because of the way in which the scholars themselves have interacted with the data – their ways of knowing and seeing is considered to be illegitimate. For instance, the candidate highlights that anthropologists provide a-historical accounts and she takes issue with the fact that anthropologists are not sensitive to, and discerning of, the materials collected – again reflecting the lack of a nuanced perspective that a historical gaze affords. In doing so, the candidate is able to make an argument that further research – from the right kind of perspective – is needed in the field.

2.2.3. Combining social strategies

Candidates can also establish a rationale by enacting both subjective and interactional strategies when making the argument that the new study is worthy because it contributes a new knower of a topic and because of the particular 'ways of knowing' that the knower affords – i.e. both subjective relations to types of knowers and interactional relations to ways of knowing are foregrounded. For example, in a political studies dissertation on same-sex marriage in post-apartheid South Africa, the candidate foregrounds who she is as a person – for example, being an activist-researcher – *and* she foregrounds how interacting with particular ways of thinking – such as theorists of Ethics of Care – have shaped her gaze used to understand objects of study:

> Through feminism I had been exposed to some challenges to epistemological hegemonies in the centre. Standpoint Theory (Harding 2004; 2009) resonated with

> my situation as activist-researcher, while theorists on the Ethics of Care (Gilligan 1995; U Narayan 1995; Tronto 1995) affirmed what I had concluded while completing my Master's thesis (Van Zyl 1988) about the ineffable relationality of human existence… Then I wandered into the ontological terrain of the Southern African philosophy of Ubuntu.
>
> (Dissertation 6, pp. 2–3)

Despite theories being foregrounded here (which could suggest discursive relations being emphasized), the candidate is not aligning with a specific theoretical framework that will drive the study. Rather, she is showing how various theoretical insights have contributed to shaping her specific way of thinking – i.e. she is foregrounding interactional relations to her ways of knowing. The development of this gaze, however, is constantly related back to who the candidate is as a person (i.e. strengthening of subjective relations), particularly to her sexuality which she argues plays an important role in the research:

> I am a feminist lesbian who married a woman after decades of renouncing marriage as the nexus of women's oppression… So this research is not only about others' intimate relationships, but also about my own.
>
> (Dissertation 6, pp. 4–5)

The constant interweaving of both interactional relations among legitimate ways of knowing and subjective relations among types of knowers is seen throughout this component. The candidate is therefore legitimating the study as providing the right kind of gaze – in this particular case, a 'born gaze' that foregrounds both who she is and how she knows.

This section has highlighted how candidates within the sample of dissertations typically establish a rationale for their study by either enacting epistemic strategies (emphasising epistemic relations) or social strategies (emphasising social relations). Within epistemic strategies, candidates tend to establish the rationale using ontic strategies which foreground a new object of study, or discursive strategies which foreground a new approach for understanding a particular object of study. At times, both ontic strategies and discursive strategies can be enacted, resulting in a 'purist insight' that foregrounds both a new topic and a new method for understanding as the basis of the rationale. Within social strategies, candidates can enact subjective strategies in order to foreground a new legitimate knower of a topic, or they can enact interactional strategies to foreground legitimate ways of knowing as

the basis of the rationale. At times, both strategies can be enacted, resulting in a 'born gaze' that emphasises both who the candidate is and how he/she knows as the basis of the rationale.

3. EXPLAINING THE PHENOMENA BEING STUDIED

The second core component found in dissertations is explaining the phenomena being studied. All empirical research depends on some form of 'materials', whether that be empirical data, select novels or artworks, archival documents and so forth, to be examined in order to generate new knowledge. Candidates need to describe what materials have been used in the study and they need to justify why they have been chosen, in terms of their appropriateness for the study's aims.

Dissertations in the sample that include highly detailed descriptions of the materials, outlining how they were chosen and foregrounding the specific methods, procedures and specialist techniques involved in their collection are said to use epistemic strategies. Those that tend to include only a brief mention of what materials have been included in the study are said to use social strategies. Just because less is written about the materials in explicit terms in social strategies to that of epistemic strategies does not mean to say that these candidates 'do less' in terms of selecting and gathering materials. Rather, it suggests that providing in-depth details of the materials is not necessarily valued to the same extent. Dissertations in the sample tend to enact either epistemic strategies (emphasising epistemic relations) or social strategies (emphasising social relations) when describing their materials. Unlike in other components of the dissertation, candidates tended to not combine these strategies when explaining the materials.

3.1. Epistemic strategies

Epistemic strategies, which foreground epistemic relations, tend to include a careful and detailed description of how the materials were actively constructed and collected by the candidate. These studies typically include materials that have to be collected, created, assembled or constructed in some way. The description of materials is usually written in a logical sequence that reflects the way the research unfolded (i.e. describing how the interview schedules were designed will typically precede the description of how the interviews were

conducted and so forth), and is typically found in an explicit section of the dissertation (such as under a subheading of 'Data collection'), often occupying a number of pages of text space.

For example, in a sociology dissertation looking at sexual violence against women in select African contexts (Dissertation 7), the materials include personal narratives from survivors. In order to gather the material, the candidate had to first: identify participants, gain ethical access, compile interview schedules, conduct interviews and then transcribe the interviews so that 'the materials' – the personal narratives – could be analysed. Each stage of the process is documented and described in detail in the dissertation over the course of a number of pages, with the specific procedures for generating and collecting the materials being explicitly explained. For example, the candidate describes how she used purposive sampling methods to identify her participants and how she abided by her university's code of ethical research practice when interacting with the participants. She also describes in detail how different interview schedules were compiled, including structured interview schedules and semi-structured schedules (which she attaches as an appendix). The candidate also describes the interview process at length, including details of how the venue for the interviews was chosen, the duration of the interviews, how a trained counsellor was present in case survivors needed support, how an interpreter was used to overcome language barriers and so forth. By including this level of detail and showing how each step of the process was driven by specialist techniques (such as the sampling method, the kind of interviews conducted and so forth), the candidate is foregrounding specialist knowledge, principals and procedures as the basis of her explanation of the materials. The explanation is therefore based on the foregrounding of epistemic relations.

When it comes to justifying the choice of materials, the 4-K model affords a more delicate level of analysis. When candidates justify the choice of materials on the basis that they have yet to be used in existing research, ontic strategies which emphasise ontic relations to existing objects of knowledge, or 'that which is known' are enacted. The foregrounding of ontic relations bases the legitimacy of the materials on the fact that they offer the field previously inaccessible or non-existing materials to examine. For example, in a history dissertation that examines South Africa's chemical and biological warfare programme during the apartheid era, the candidate explicitly demonstrates the originality of her materials by arguing that her role as an investigator in the Truth and Reconciliation Commission (TRC) enabled access to documents and participants that had otherwise never surfaced or been available in South Africa.

This included interviewing key personnel involved in the programme, including chief scientists and military managers as well as analysing the *unpublished* daily court reports from various TRC trials:

> Evidence presented at the trial was an additional source of information. The trial was monitored on a daily basis by Marlene Burger who made reports of the testimony available to me. These reports formed the basis for weekly summaries of the trial which were widely distributed via the internet. The unpublished daily reports form part of the record of this research.
>
> (Dissertation 1, p. 8)

The candidate reinforces the idea of the uniqueness of her materials by claiming that the TRC enabled pieces of information to be revealed that would have otherwise potentially remained buried. These included, for instance, top secret military documents:

> The public hearing of the TRC in 1998 into the chemical and biological warfare programme not only resulted in extensive press coverage about the nature of the programme, but placed many of the formerly top secret military documents about the programme in the public domain. This opened the way for a detailed examination of Project Coast.
>
> (Dissertation 1, p. 11)

The candidate thus emphasises ontic relations to objects of knowledge when justifying the use of materials. As such, the materials have not been chosen based on the method she is using, nor is the reason for their inclusion related to anything to do with the candidate herself (i.e. they are not personally connected to her). Rather, their inclusion is justified on the basis that the materials are original objects of knowledge that were previously unavailable to the field.

When candidates emphasise a method or theory as being the reason why specific materials were chosen, they are enacting discursive strategies which emphasise discursive relations to procedures for constructing objects of knowledge. By doing so, the materials are legitimated on the basis of being an appropriate fit for the chosen approach (either method or theoretical framework). For example, in a sociology dissertation that tests the social polarization hypothesis in Johannesburg, the candidate bases the choice of her materials (statistical data on occupational structure) on the method used in the study (social polarization hypothesis). This

is evident in how she explicitly explains that in order to test the hypothesis, particular kinds of data are necessary:

> … in order to confirm the social polarisation hypothesis, arguably, certain criteria have to be met in terms of occupations and their incomes:
>
> 1. High-skill, high-pay occupations must require more skill and have greater levels of remuneration than low-skill, low-wage jobs. SEP
> 2. Middle-income jobs must require less skill and pay less than high-skill, high-wage jobs, and require more skill and pay more than low-skill, low-wage jobs… SEP
>
> Moreover, the above criteria are dependent on the definitions of high-skill, high-pay, semi- skilled, medium-income, and low-skill, low-pay jobs. It is the definition of these different categories of occupations that is the key to substantiating or refuting the social polarisation hypothesis.
>
> (Dissertation 16, p. 27)

By including such level detail of what kinds of data are necessary in order to test the social polarisation hypothesis, the candidate is emphasising that only specific data that meets the requirements of the methodological approach will be included in the new study.

The emphasis on discursive relations is also evident in how the candidate justifies the exclusion of specific data. For example, census data from 1991 are excluded based on the fact that the occupation groups within that sample are difficult to ascertain – which, in turn, interferes with the analysis as the tool depends on making clear distinctions between different occupational groups:

> Census 1991: Even though there are 165 occupational categories, there is still overlap between what should be separate occupational groups according to the SASCO… Thus, it is difficult to know which major occupation group to classify this as part of.
>
> (Dissertation 16, p. 41)

The inclusion and exclusion of particular materials is therefore justified by foregrounding discursive relations: the materials have thus not been chosen because they are unique – which would reflect ontic relations – rather, the choice is justified on the basis that the methodological tool adopted in the study requires particular kinds of data in order to produce accurate results.

3.2. Social strategies

Social strategies which foreground social relations generally do not include highly detailed explanations of their research materials. The selection and use of the materials in such dissertations is often based on the 'gaze' of the candidate – i.e. what the candidate him/herself deems appropriate for their own purpose, or based on who they are as a person, rather than being prescribed by a particular technique or method driving the research. The selected materials are typically acknowledged near the start of the dissertation, with this description often being embedded within the broader narrative of the introductory chapter rather than in a discrete section on materials. For example, in an English literature dissertation looking at strategies of self-definition in the autobiographical fiction of J.M. Coetzee, the candidate briefly mentions which novels are included as the materials in the study, as well as why they have been selected, in the space of only one paragraph. This is included near the end of the introductory chapter:

> My focus falls quite strongly (although not exclusively) on those of his novels that have been inflected, to a greater or lesser degree, by autobiographical concerns: Boyhood, Youth and Summertime, but also Diary of a Bad Year and Elizabeth Costello.
>
> (Dissertation 13, p. 39)

Here, the candidate provides a general description of the materials to be used in the study. Aspects relating to the materials, such as how they were identified, collected, assembled and so forth are not described or accounted for in the description. A reason for this could be that the social relations relating to the 'gaze' of the candidate – i.e. the particular perspective which he has developed over time by interacting with significant others – which selects and assembles the materials is less amenable to discrete, sequenced accounts (such as those provided using epistemic strategies). Following this description, the candidate weakens the focus on the previously mentioned materials by explaining how two more novels (*Age of Iron* and *The Childhood of Jesus*) that 'depart (strictly speaking) from the "autobiographical" cast' (Dissertation 13, p. 39) informing the selection of the first set of novels, are also included in the study. In doing so, the candidate keeps the description of the materials relatively broad and general.

Using the 4-K model the justification of the particular novels can be analysed in greater detail. Within social strategies, candidates justify their materials by enacting subjective strategies or interactional strategies. These strategies emphasise:

- *subjective relations* by arguing that the (often personal) materials are intimately linked to who they are as a person, or
- *interactional relations* by foregrounding how selected materials demonstrate their cultivated gaze.

Continuing with the previous example (Dissertation 13), the candidate's gaze is foregrounded when justifying why the particular materials have been included, evident in how he claims that he chose the novels based on the themes they portray and which he intends to analyse:

> The reason for this [including *Boyhood*, *Youth*, *Summertime*, *Diary of a Bad Year* and *Elizabeth Costello*] is that I hope to show that the centripetal force of conflict in his work has significant implications for the notion of the self that emerges in his writing – and more explicitly for the relationship between the author-self and the self that inhabits the writing – and this is a project to which the autobiographical slant of those novels is most obviously amenable.
>
> (Dissertation 13, p. 39)

The inclusion of the further two novels of *Age of Iron* and *The Childhood of Jesus* are also justified in terms of the relevant themes they provide the candidate for his analysis:

> … I conclude with a reading of Coetzee's most recent novel, The Childhood of Jesus, with the aim of presenting a retrospective view on the conflicted source of authority that I identify, over the course of my thesis, as a defining feature of Coetzee's literary oeuvre.
>
> (Dissertation 13, p. 39–40)

The selection of the novels is therefore not based on the fact that they have never been studied before or because the chosen approach requires particular novels to be selected (which would suggest epistemic strategies), but is rather based on who the candidate is and what he hopes to achieve by looking at these novels. As such, social relations, and specifically interactional relations to the particular 'ways of knowing' or gaze of the candidate are foregrounded as the basis of material selection.

When candidates foreground who they are as person as being the reason why specific materials were chosen, subjective strategies are enacted which emphasise subjective relations to types of knowers. For example, in an African studies dissertation that considers forced removals during apartheid, the candidate selects and justifies her materials on the basis that they are an extension of herself and her identity. This is evident in how she describes the materials – family photographs – in relation to how they serve a purpose for her to make sense of her and her family's experiences:

> I have no idea why I have chosen to look specifically to these images in an attempt to make sense of my place in this world; why I am resorting to the study of these flimsy pieces of fading and stained paper as a way to resolve my seeming struggles of metaphorical homelessness.
>
> (Dissertation 8, p.14)

By suggesting that the images may help make sense of her 'place in this world' and her 'metaphorical homelessness', the candidate is emphasising how deeply connected the materials are to her identity and their role in making sense of the racially motivated experiences her family suffered during apartheid. The candidate reinforces this connection when she argues that the materials are well-suited to the goals of the study in that they enable specific 'memory work' to be undertaken which can help make sense of her experiences and those of her family:

> This memory work is underscored by an understanding that apartheid and colonial contusions, regardless of temporal distance, have to be attended to and as such I offer that it is precisely the temporal and other displacements in the photograph that can bridge this chasm…
>
> (Dissertation 8, p. 16)

The candidate thus justifies the use of photographs on the basis that they provide a particularly appropriate way in which to engage with different understandings of the racially motivated events and subsequent experiences endured by a particular group of people based their race. The justification therefore emphasises subjective relations in that it foregrounds the choice of materials as related to who the candidate is as a knower.

The analysis presented in this section suggests that candidates typically explain and justify their choice of materials using either epistemic strategies or social strategies. Within epistemic strategies candidates tend to include highly detailed and procedural accounts of materials,

emphasising the specialist techniques and procedures involved in the collection. They also tend to justify the use of materials by foregrounding their uniqueness or by arguing that they are a necessary choice for the method. There was not much evidence of combinations of these relations when justifying materials. Within social strategies, candidates typically only briefly mention their choice of materials and this is usually embedded within the broader narrative of the introductory chapters. The choice of materials tends to be justified in relation to the candidate's gaze they wish to demonstrate or by foregrounding how the materials have been chosen in relation to who the candidate is as a person. Again, these bases tended to be either/or – candidates did not typically combine relations when justifying their materials.

4. EXPLAINING HOW THE PHENOMENA WERE STUDIED

The third core component found in dissertations is explaining how the phenomena were studied. This component directly relates to the assessment criteria of demonstrating the use of 'appropriate research methods'. Once materials have been described and justified (see section 3), the candidate then needs to explain what he/she has done with them, whether that be statistical analysis, theoretical analysis, hermeneutic interpretation, description, quotation, summary, paraphrase, and so forth. The myriad ways of demonstrating what is 'appropriate' in terms of 'method', in the broadest sense, varies substantially across subject areas.

Dissertations in the sample that emphasise a technique or procedure for making sense of the materials, whether that be a specific method (such as the use of the 'Third Edition' Global Fund HIV Monitoring and Evaluation Toolkit as well as the use of an ordinal rank-order scale in Dissertation 14), statistical analysis (such as the use of a multivariate regression model in Dissertation 15), a theoretical framework (such as the transactional model approach in Dissertation 24) tend to be clustered into epistemic strategies which emphasise epistemic relations between knowledge and its proclaimed objects of study. Additionally, epistemic strategies typically downplay the role of the candidate's disposition for 'doing' the research – i.e. these strategies typically do not require a special kind of knower – the focus is rather placed on the use of some kind of tool for driving the analysis. Alternatively, dissertations in which a specific type of knower is emphasised for making sense of the materials, whether that be a particular type of person based on social categories (such as race in Dissertation 8), or in terms of providing a specific way of knowing or 'gaze' (such as a gaze that has been shaped by

theories of postmodernism and postcolonialism as well as scholars such as Edward Said and Jean and John Comaroff in Dissertation 12), tend to be clustered into social strategies. This group emphasises social relations between knowledge and its authors or subjects and tends to downplay procedures or techniques used to understand the materials.

4.1. Epistemic strategies

Similar to when justifying the use of specific materials, epistemic strategies that foreground epistemic relations tend to include highly detailed accounts of the procedures or techniques used in the research – typically, the use of specialist methods or theoretical frameworks. In this sense, they foreground discursive relations to procedures for generating knowledge in that these procedures or 'tools' (used here in a broad sense to include any kind of specialist method, technique or framework) are described in the dissertation as the driving force behind the analysis. The use of the 'tool' will typically be described at length to reflect a sense of methodological transparency and reproducibility – two characteristics of knowledge code research that are valued in many fields. The amount of time spent explaining the procedure or tool, such as a whole chapter outlining the method or chapter(s) explaining the theoretical framework informing the analysis, reinforces the importance of this aspect of the research.

For example, the author of a psychology dissertation examining discourses that construct intellectually disabled people as a subject of education foregrounds the specific methodological approach, 'Q-methodology', as playing a central role for understanding the materials. This is evident in how the candidate devotes a substantial amount of text time (approx. 14 pages) describing in detail each stage of the analysis, including justifications of why it unfolded the way it did:

> Step 1: I reviewed each concourse and eliminated statements that were in direct repetition.
> Step 2: Themes were identified for each Q-set, using a thematic analysis as a preliminary procedure to feed into a theoretical model aligned with discourse theory and Q-methodology. As such I engaged in the following process based on the procedure described by Braun and Clarke (2006), leaving out the more analytic processes as these are undertaken in the application of Q-method...
>
> (Dissertation 4, p. 131)

Within epistemic strategies, the candidate also enacts discursive strategies here – seen in how she typically relates each step of the analytical process to the specialist approach – e.g. ‘identified for each Q-set’, ‘to feed into a theoretical model aligned with discourse theory and Q-methodology’, ‘the procedure described by Braun and Clarke (2006)’. By including such a methodical explanation of the process of analysis as well as constantly referencing the specialist method used in the study, the candidate is foregrounding the method as underpinning the analysis, rather than any kind of innate personal disposition.

When candidates foreground the object of study as the basis of why a specific approach has been chosen, they are enacting ontic strategies as well as discursive strategies. In doing so, the candidate sets up the nature of the materials as dictating how they will be analysed (typically through the use of specific methodological/theoretical approach). For example, in a sociology dissertation (Dissertation 25) looking at patient experiences of fibromyalgia, the candidate claims that studying patient *narratives* was essential for this object of study (p. 110), and in order to do so, a particular kind of method was required:

> Within health research, narrative inquiry has become a salient tool for exploring the accounts of people who experience illness in continuous, chronic forms.
>
> (Dissertation 25, p. 110)

The candidate then goes on to describe the narrative inquiry approach and justifies why it is an appropriate choice given the nature of the object of study:

> For Stanley (2008: 436) narrative inquiry "provides a methodology, a set of broad procedural ideas and concepts, rather than a pre-set method or specified technique, and it encourages responsiveness to the dynamics of the research context". For these reasons, narrative inquiry was an appropriate and useful means of uncovering the perspectives of people living with fibromyalgia in SA. It also lent itself to the aims of reflexivity and partnership that were core elements in the research design of this study.
>
> (Dissertation 25, p. 111)

Here the candidate is emphasising ontic relations in that she is basing the choice of approach used in the study on the basis of what needs to be analysed, but she is also foregrounding discursive relations by emphasising the specific approach to be used. The choice of approach

is therefore underpinned by 'purist insight' where both what is being studied as well as the procedure for studying it is foregrounded.

4.2. Social strategies

Social strategies emphasise social relations between the analysis of materials and the personal characteristics of the author. This can be done by enacting subjective strategies which emphasise a particular knower (candidate) as a legitimate agent to understand the materials based on who they are as person (by emphasising subjective relations); or by enacting interaction strategies which foreground how their specific ways of knowing, which have been shaped over time, provide a legitimate gaze to understand phenomena (by foregrounding interactional relations); or candidates can enact both kinds of strategies. The explanation of how the materials were understood in social strategies is typically less detailed and shorter than those in epistemic strategies. Unlike knowledge codes that value transparency and reproducibility – and hence need to explain the process in detail – knower codes tend to foreground the gaze of specific knowers. As such, the 'analysis' (or study, investigation, inquiry) of the subject matter is typically driven by the personal insight of the author. As a result, the 'method' or modus operandi that is used in the study is not as amenable to discrete, sequenced and highly detailed accounts as that adopted in epistemic strategies.

For example, when describing the 'method' used in an anthropology study exploring welfare initiatives on farms in Zimbabwe, the candidate foregrounds how his gaze – which is used to understand issues of power and postcolonialism – has been shaped by interacting with the ideas of key thinkers in the field such as Foucault, Agemben and so forth:

> … I draw on the work of several theorists of power whose work has been applied to such contexts. Chief among these is Michel Foucault, as well as authors such as Agamben (1998), Fassin (2009, 2010), Ferguson and Gupta (2002), Hansen and Stepputat (2005), Li (2007), Mbembe (2001, 2003), Moore (2005) and Rutherford (1996, 2001a), who have used or engaged with Foucault in their work.
>
> (Dissertation 10, p. 23)

While the focus here may appear to be on the use of theory – which could suggest an emphasis on discursive relations, the basis of the 'analysis' or perspective being demonstrated is foregrounding the candidate's gaze – which has been shaped by these theorists – rather than a

specific theoretical framework that is enacted on the materials. In doing so, the candidate not only foregrounds interactional relations regarding the development of his gaze, but he also downplays epistemic relations by weakening the boundaries and control of the theory as the main 'tool'. This is seen in how the candidate asserts a need for 'several theorists of power' to be consulted – i.e. the use of a specific theoretical framework (which would strongly foreground discursive relations) is set up in the text by the candidate as being limiting and inadequate for the needs of the research.

The candidate also enacts subjective strategies (emphasising subjective relations) in order to position himself as a knower as being instrumental for the analysis of the research – foregrounding how his upbringing in Harare, education and career have shaped his disposition, making him an ideal knower to engage with the topic:

> I grew up in Harare surrounded by the descendants of migrant labourers... Having studied anthropology as an undergraduate, my first postgraduate research project during my Honours year was on informal trading brothers who came from a Malawian farmworker background… After working for a Zimbabwean NGO for two years, I returned to academia and conducted in-depth research (2004–2005) on displaced farmworkers for my Masters research… I brought my experience as both a scholar of farm labour and displacement, and as one who had participated in "improvement" projects aimed at subalterns in my professional work…
>
> (Dissertation 10, p. 33)

The candidate thus sets up the fact that who he is (i.e. based on his life experience) and how he knows (through his interactions with the ideas of key scholars) has influenced how the research has been conducted and how the topic has been engaged with and understood. The candidate therefore foregrounds a 'born gaze' as the *modus operandi* adopted in the study.

The analysis presented in this section has shown that when candidates demonstrate what 'tool' has been used to make sense of their materials, they can foreground epistemic relations by emphasising the use of a specialist method or theoretical framework (discursive relations), and, at times, can also emphasise the object of study as dictating the kind of approach adopted (ontic relations) – resulting in a 'purist insight' underpinning the choice of approach. Alternatively, candidates can foreground social relations by emphasising their status as a legitimate knower (subjective relations) or by showing that they have a legitimate gaze (interactional relations), or by emphasising both (asserting a 'born gaze' as the 'tool' being utilised). While it is

theoretically possible to emphasise both epistemic and social relations (i.e. when who the author is as a person matters as well as what kind of specialist approach they use), this was not found in the sample of dissertations used in the study.

5. CONSTRUCTING FINDINGS

The fourth core component found in dissertations is constructing findings. This is a high-stakes part of the dissertation as it is here that candidates must generate new knowledge about phenomena. All empirical research involves some form of understanding – whether that be interpreting 'raw' materials, presenting materials in a particular way, drawing implications from materials and so forth. Constructing findings is what components one to three prepare for, and on which component five is based. Identifying and analysing the basis of how that understanding is generated enables a way of seeing how new knowledge is constructed in writing without getting lost in the content of what is being written about by the candidate.

5.1. Epistemic strategies

Epistemic strategies which emphasise epistemic relations typically foreground some form of 'tool', whether that be a specialist method such as Q-method (Dissertation 4) or shift-share analysis (Dissertation 16), or a theoretical framework such as Critical Studies of Men (Dissertation 5), or both a method and theory, such as Butler's (1990) theory of performativity with Taylor and Littleton's (2006) narrative-discursive method (Dissertation 3) as the basis of the interpretation being made. Such dissertations typically include an extensive description (either a substantial part of a chapter or, in some instances, multiple chapters) of either the method or theoretical framework(s) to be used prior to constructing the findings. The important role these 'tools' play is thus seen in the amount of space given to their explanation and in how they are explicitly used when constructing the findings. Typically, the understanding of the materials and the new knowledge that is generated from that understanding will be constructed in relation to the 'tool' – i.e. the 'tool' or approach will form the basis of the understandings generated.

For example, the author of a psychology dissertation looking at parenthood decision-making practices consistently moves between interview transcripts (her materials), interpreting and

explaining these transcripts and using theory to make sense of them. This is seen in how the candidate draws on quotations from the interview transcript when attempting to generate an understanding of the participant's viewpoint:

> Significantly, though Anel describes the "married couple situation" as "responsible" and "the ideal situation", she explicitly adopts a liberal and non-judgemental position stating that she does not "condemn" those who have children out of wedlock.
>
> (Dissertation 3, p. 215)

This explanation or interpretation is then developed further in the text, culminating in the candidate substantiating this understanding with Butler's (2002) theory – the main theoretical framework adopted by the study:

> Interestingly, extending the mandate to be married before having children to homosexual couples disrupts accepted, heterocentric ideas about what the "correct" family should look like. According to Butler (2002), such constructions can be interpreted as both a parody of the recognisable family form (*viz.*, the patriarchal, nuclear family that continues to legitimate kinship bonds) as well as a reinforcement of it.
>
> (Dissertation 3, p. 215)

The candidate has therefore made an inference based on the materials (interview transcripts) at hand about participants' attitudes towards same-sex marriage and what this means for heteronormative assumptions. She then uses a theoretical understanding to justify the interpretation that has been made, and in doing so, the theory comes to underpin the interpretation – i.e. the understanding is implicitly portrayed as legitimate because it is based on, or at the very least, substantiated by, a legitimate theoretical understanding. In doing so, the candidate enacts discursive strategies which foreground discursive relations to the 'tool' (in this case the theoretical framework) as the basis of the knowledge claims being enacted. The pattern of moving between the 'raw materials' (i.e. verbatim extracts from the transcripts) and theory is repeated throughout the findings chapters and is particularly evident in the concluding sections.

This is not to say, however, that the consistent moving between materials and theory is the only way to base an understanding on a theoretical framework. There are multiple different ways

that discursive relations to theory can be foregrounded – for instance an anthropology dissertation (Dissertation 5) on masculinities and xenophobia starts with a theoretical reading and then moves to specific instances in the materials to unpack how the theoretical concepts can be used to understand the participants' views in the study. Once this understanding has been generated, the candidate returns again to theory. The point here is that the pattern of using theory is not crucial – the important aspect relates to the *basis* of the understanding that is generated – and whether or not theory is used to underpin the legitimacy of the interpretation being made.

Candidates can also legitimate their findings based on the method they are using to generate the interpretation, again using discursive strategies. For example, in a sociology dissertation looking at changes in the job market in Johannesburg, the candidate bases her interpretation of the data (statistical analysis of numerical data relating to occupational figures) on the method by substantiating her understanding with the use of shift-share method:

> Further evidence of why the decline of employment in the manufacturing sector and the growth of employment in the service sector have not led to increased polarisation can be found in the application of the shift-share method to occupational and sectoral change in the Johannesburg region between1980 and 2010.
>
> (Dissertation 16, p. 103)

This enables the candidate to construct her interpretation as legitimate because it is substantiated with a legitimate method. To reinforce this methodological backing, the candidate emphasises how the findings – which have been generated by the method – disproves the hypothesis (social polarisation theory) that she has set out to test in the study:

> However, the results of the shift- share analysis, calculated for the period during which manufacturing employment declined (1980 to 2001) and the period during which it grew again (2001 to 2010), do not show this… Thus, the results of this shift-share analysis show why deindustrialisation did not result in social polarisation.
>
> (Dissertation 16, p. 104)

The candidate thus emphasises discursive relations to the specialist method being utilised in the study to generate understandings. Although the candidate enacts this method (i.e. there is a

subjective element to the analysis), she presents the findings as legitimate because they are substantiated by a legitimate method.

5.2. Social strategies

Social strategies which foreground social relations underpin the understandings generated in the analysis with attributes related to the author as an ideal knower – whether that be because of who they are based on social categories such as race (Dissertation 8), sexuality (Dissertation 6) or their specific kind of upbringing and educational experience (Dissertation 10), or in terms of their cultivated gaze (for example, Dissertation 9, 11, 17, 1, 21 among others). When constructing findings, candidates will typically emphasise their own gaze as the basis of the knowledge claims, rather than a specific theoretical framework or method (which would emphasise epistemic relations). At times, social relations can also be emphasised by foregrounding other knowers' experiences – typically seen in dissertations that present extensive verbatim extracts from their materials (such as participant narratives).

For example, in a political studies dissertation looking at same-sex marriage in post-apartheid South Africa, the candidate enacts subjective and interactional strategies to emphasise her gaze that has been developed over time by the influential ideas of key thinkers such as Foucault (1976), Butler (1990), Yuval-Davis (2006, 2011) as well as feminism and queer theory (among others). When explaining her approach for understanding the materials the candidate claims that being a feminist means that her understanding of same-sex marriage 'begins with my personal experience' – highlighting the fact that who she is as a person (i.e. as a gay, married female) and her particular perspective (feminism) has shaped the interpretations made in the study (Dissertation 6, p. 103). She also argues that although her 'job' as a researcher is to be 'an interpreter and publisher of other people's stories' (p. 105), she draws on perspectives such as Yuval-Davis's (2006, 2011) framework of 'belonging' to help understand the materials (p. 118).

The development and use of the gaze, as well as presenting 'other people's stories' is apparent throughout the findings chapters. For instance, in a findings chapter of approximately 22000 words, almost half of the word count is taken up with verbatim excerpts from the interview transcripts. This suggests the prioritizing and legitimizing of these 'voices'. In order to make sense of these voices, the candidate draws on her gaze. The candidate typically makes this gaze

explicit at key junctures in the chapter (i.e. at the start of the chapter and at the beginning and end of sections). For example, at the beginning of a section looking at kinship and family, the candidate identifies the gaze she is using by foregrounding how Nira Yuval-Davis' (2011) feminist ethics of care is used to understand the materials:

> At the core of a queer politics for belonging lie myriad questions about care related to one's psychological and social well-being… Nira Yuval-Davis (2011: 45) proposes a feminist ethics of care as an alternative model of social and political relationship to the neoliberal discourse of self-interest.
>
> (Dissertation 6, p. 166)

After recounting the stories of her participants and relating them to the South African legal context, the candidate returns to the perspective of Yuval-Davis (2006) at the end of the section to show how this general understanding (which has been subsumed in the gaze) has helped to make sense of the participants' everyday experiences of life:

> Belonging as a concept was used by Nira Yuval-Davis (2006a) as a concept which enables us to understand the 'privatised' and affective dimensions of citizenship, shaped by contexts of care and interpersonal intimacy. Here we can perceive the reach of rights in citizenship through people's experiences of everyday life.
>
> (Dissertation 6, p. 206)

Although the candidate is using Yuval-Davis' (2006, 2011) framework to guide the analysis, she does not construct this specific framework as the driving force behind the interpretations being made – i.e. it is not explicitly used throughout the interpretations, such as in applying theoretical concepts to specific instances of data. Rather, the theory is used as a general perspective to guide the candidate's understanding. In this sense, the candidate is showing the key influences on the gaze she brings to the research, with Yuval-Davis (2006, 2011) being one such influencer. In this way, her unique gaze comes to underpin the understanding.

At times, the enactment of a gaze is not made explicit in the writing to the same degree as the example above. For instance, the history dissertations included in the sample tend to enact their gaze in a more implicit manner, which can often create the impression that epistemic strategies are being enacted. However, while the gaze may be subtle, the authors of these dissertations do not base their claims on an explicit method or theoretical framework. The collation of information – which is often seemingly portrayed as 'fact' in dissertations by the objective

writing style typical of this subject – has been identified, organised and recontextualised using the cultivated historical gaze the author brings to the research. For example, in a dissertation on the history of wildlife conservation in Kenya, the candidate presents the materials (in this case, information from sources) in a narrative account of the events at the time. This is done in a very 'matter-of-fact' objective way, with little overt interpretation or subjectivity coming through:

> Since the line between killing in defence of person or property and poaching was difficult to draw, the government changed the policy to make animals killed in game control activities its property. From around 1933 it became mandatory for all the trophies emanating from animal control activities to be handed over to the government. This policy tended to exacerbate anti-conservation feeling amongst the populace as there was now no compensation for damage caused by wildlife.
>
> (Dissertation 2, p. 123)

While different to other more explicit expressions of gaze, as seen in the previous example, the candidate here is generating an understanding of the sources and recontextualising the information into a narrative account using his knowledge as a historian. It is thus his cultivated historical gaze that comes to underpin the understanding of the materials being generated here.

The analysis presented in this section has revealed the different bases on which candidates can justify their claims when building new knowledge. When using epistemic strategies, candidates typically base their claims on the specialist method or theory being utilised in the study. As such, the new knowledge is presented as legitimate because it is underpinned by a legitimate procedure for generating objects of knowledge. Alternatively, when using social strategies, candidates typically base their claims on their own subjective knowledge – either because of who they are as person, or in terms of their specific cultivated gaze. At times, both aspects can be emphasised as the basis of the claims being made. The new knowledge is thus presented as legitimate because it has been generated by a legitimate knower.

6. DEMONSTRATING AN ORIGINAL CONTRIBUTION TO THE FIELD

The fifth core component in dissertations is demonstrating an original contribution to the field. Section 2 of this chapter analysed the different ways in which candidates establish a rationale

for doing the research. The analysis revealed how candidates tend to legitimate their studies by either emphasising epistemic relations by foregrounding new objects of knowledge or by providing new procedures for constructing new objects of knowledge; or, through emphasising social relations by providing legitimate knowers of objects of knowledge or by providing new ways of understanding phenomena. How candidates 'speak back' to the rationale of their study is an important part of making an argument for how they have made an original contribution to knowledge. As such, how the contribution is justified will typically mirror the arguments made at the beginning of the dissertation.

When a candidate emphasises 'what' can be described as original knowledge, epistemic strategies that emphasise epistemic relations are enacted. When a candidate foregrounds 'who' can be described as a legitimate knower, social strategies that emphasise social relations are enacted. The dissertations in the sample typically gravitate towards one or the other cluster – i.e. they tend to use epistemic strategies or social strategies. Within these two clusters, however, candidates can emphasise different kinds of epistemic relations and social relations.

6.1. Epistemic strategies

Epistemic strategies that construct 'what' can be considered legitimate knowledge can be achieved by enacting ontic strategies to demonstrate that the new study has contributed findings on an original topic to the field (such as Dissertation 21 and 25), or by enacting discursive strategies to demonstrate that the new study has contributed a new way for understanding specific topics – whether that be a new method for analysing or calculating data or the use of a theoretical framework for interpreting (such as Dissertation 3, 4, 24, 5 among others).

6.1.1. New phenomena

When candidates enact ontic strategies to construct an argument for how the new findings have revealed new phenomena (or facets of a phenomenon) that have previously been unknown, ontic relations are foregrounded. This is typically done by demonstrating how the new findings generated in the research either challenge or extend what is known, or contribute knowledge of a new topic entirely. For example, in a history dissertation on the political biography of Henry Selby Msimang, the candidate claims that the study makes an original contribution to the field based on the fact that no other such biographies exist:

> This thesis has sought to critically examine Henry Selby Msimang's multi-layered political career from 1912 to 1982, filling a gap in South African historiography… Although Msimang was interviewed many times from the 1960s, none of those projects resulted in a book or a thesis.
>
> (Dissertation 21, p. 352)

Here, the candidate is justifying the study on the basis that he has revealed a new subject for study (in this case, the political figure Henry Msimang) that was otherwise absent from the field. In order to emphasise this as a legitimate contribution, the candidate then makes an argument for why this political figure has been excluded from various disciplines in South Africa, and how his study has filled this gap:

> Sadly, in the process of South Africa's endeavour to define itself, forge a new identity and elevate its struggle heroes, Msimang's complex political history has resulted in his being marginalised, in South African history, literature and politics... This thesis attempts to redress this imbalance.
>
> (Dissertation 21, p. 360)

The candidate thus uses the lack of a consolidated political biography of Msimang in existing literature for the purpose of arguing why his study makes a legitimate contribution to the field. The contribution is therefore argued to be not only novel, in that it is the first of its kind, but also a necessary addition to the field.

6.1.2. New procedures for constructing phenomena

When authors enact discursive strategies to argue that the new study has provided a new approach – either a theoretical perspective or methodological approach/tool – for studying phenomena, discursive relations are foregrounded. This strategy is typically adopted in dissertations that base the rationale of the study on the lack of, or issue with, approaches used in existing studies. Methodological contributions are typically justified in the text by explicitly relating how the new method builds on, challenges and supersedes existing approaches. Authors do this by situating the new study within a discussion of existing studies. For example, in a psychology dissertation investigating the role of motivational factors and primary appraisal in stressful transactions, the candidate builds an argument about how the new method she has developed is useful. She does this by demonstrating what it was able to achieve:

> This study offered an interesting methodological approach in that it based many of the measures utilised on the individual-specific personal strivings generated by subjects, and compared trends across subjects. As such, the study incorporated both nomothetic and idiographic influences in the research design.
>
> (Dissertation 24, p. 308)

The candidate then demonstrates how the new method is able to supersede existing methods – namely, by including a qualitative element which was lacking in existing approaches – and in doing so, is able to engage with aspects of the topic that were otherwise neglected in existing research:

> It did not rely on a purely quantitative methodology characteristic of much stress research which Lazarus views as "incomplete as an approach to gaining knowledge" (Lazarus, 1999, p.195), nor did it fully embrace Lazarus's (1999) suggestion of a methodological overhaul as epitomised in his championing of a narrative approach to research.
>
> (Dissertation 24, p. 308)

The candidate therefore justifies her contribution on the basis of the new study being able to generate findings that are otherwise unavailable in the field, due to the use of a new method.

Theoretical contributions are typically justified by foregrounding the value that a particular theory has for understanding phenomena. The justification can relate to the use of an existing theory that has not yet been used to study the phenomenon, or it could relate to the use of a new theoretical concept, or, less frequently, the use of a brand-new theory that the author has created. When using discursive strategies, the author will typically contextualise the new findings in relation to existing research, emphasising the role of the theoretical approach that enabled these findings to be generated. For example, in an anthropology dissertation that investigates xenophobic exclusion and masculinities among Zimbabwean male migrants in South Africa, the candidate emphasises why a specific theoretical approach was necessary to understand the topic. Here, he argues that in order to fully engage with and understand the complexities of the topic – such as the displacement, culture and history of his participants and how that related to constructions of masculinity – the theoretical framework of critical masculinities studies was necessary:

> Important to the analysis in this study is the connection made between a given society's history and culture, and the production of masculinities (Connell, 1995). We have seen how, according to Connell (ibid), masculinities cannot be removed from the society's history and culture.
>
> (Dissertation 5, pp. 241–242)

He then unpacks why showing these connections was important for understanding the topic. In doing so, he legitimates the use of the theory as a critical component for generating these understandings:

> This makes the systematic examination of migrant masculinities even more interesting given that transmigrant men often straddle multiple national and cultural contexts. Their ways of enacting manhood therefore draw from two historical and cultural influences: places of origin and host societies (Howson, 2014, 2014).
>
> (Dissertation 5, p. 242)

The candidate thus justifies why the particular topic needed a more nuanced understanding of society's culture and history – and in doing so, argues that without this perspective, the findings would not have been able to be generated. Therefore, while critical masculinities studies is not 'new' in itself, it is new in terms of the way it has been used to understand this particular topic.

6.1.3. Combining epistemic strategies

When demonstrating the contribution of a study, candidates can enact both ontic and discursive strategies to make the argument that the study contributes an object of study that is otherwise absent from the field (i.e. foregrounding ontic relations) *and* because it offers a novel approach to do so (i.e. foregrounding discursive relations). For example, in a sociology dissertation looking at fibromyalgia in South Africa the candidate claims that by focusing on the narratives of patients she was able to generate findings that have otherwise not been available in the field:

> This study adds a body of knowledge that is currently unavailable in the context of SA, and in prioritising the perspective of the patient, the gap between what is recommended and what is enacted has been bridged by this research. This research makes an important contribution towards understanding how people living with chronic illness, pain, and fibromyalgia relate to their condition
>
> (Dissertation 25, p. 305)

In doing so, the candidate foregrounds ontic relations to other knowledge by showing that the study has contributed original findings. The candidate goes on to explain that she was only able to produce such findings because of the innovative approach – narrative inquiry –adopted in the study, which enabled her to pursue a different focus to most other research:

> The design of this study served the purpose of gaining perspectives from sources that are traditionally obscured from research agendas. In privileging the experiences of people with fibromyalgia over other narratives, this study illuminated the complexity and challenge of living with contestation and uncertainty.
>
> (Dissertation 25, p. 307)

Here, the candidate foregrounds both ontic relations and discursive relations when demonstrating the contribution as she is arguing that not only has she contributed an original object of study to the field, but she has also only been able to do so by adopting a novel approach to generate the findings. She goes on to further emphasise the novel approach by arguing that it is able to provide a tool for understanding important health issues in the field:

> In capturing complexity and multiplicity through the perspectives of those living with the chronic, contested condition of fibromyalgia, the research undertaken here showed the utility of narratives as an assistive and instrumental tool for gaining greater awareness and nuanced understandings of these experiences. Narrative inquiry is therefore recommended for studies that are interested in gaining insight into health and illness experiences…
>
> (Dissertation 25, p. 307)

The candidate therefore makes the argument that in order to better understand and engage with a disease like fibromyalgia, specific findings need to be generated from research that otherwise do not exist – i.e. the argument foregrounds ontic relations to new objects of study. Furthermore, the candidate argues that in order to do so, new approaches are needed – i.e. the argument also foregrounds discursive relations to procedures for generating findings. The candidate then shows that her study has been able to contribute both aspects to the field. The contribution there enacts ‘purist insight’.

6.2. Social strategies

Social strategies that emphasise social relations can also be further divided into types. When candidates enact subjective strategies they typically demonstrate that they have contributed a new legitimate knower of a particular topic based on who he/she is as a researcher by emphasising subjective relations between different kinds of knowers. When candidates enact interactional strategies they typically demonstrate that they have contributed a new gaze for understanding phenomena by emphasising interactional relations between ways of knowing. At times, both strategies can be enacted when the contribution is based on who the candidate is *and* how they have come to know.

6.2.1. New knowers

Enacting subjective strategies to justify a contribution is typically achieved by arguing that the study has provided the gaze of a new knower to the field. This strategy is typically used in dissertations within the sample where the author has based the rationale of the study on the idea that certain topics require particular kinds of people to 'know'. When justifying the contribution, the author will show that the understanding of the topic is legitimate because it has been understood by the 'right' kind of knower. To do this the author typically builds an argument to assert his/her authority over the findings based on who he/she is as a person (i.e. subjective relations are emphasised). This authority is usually asserted by the author through the use of first person narration and by constructing explicit links between the legitimate knower (the candidate) and the phenomenon (their topic).

For example, the author of an African studies dissertation that uses photographs to understand experiences of displacement during apartheid creates explicit links between the research materials (photographs) and the knower (the candidate):

> I am able to choreograph these images any way I choose, and as I construct, de-construct and re-construct this tableau, over and over again. I realise that I am able to see their pasts alongside my present, one in which I am not the product of a racial project…
>
> (Dissertation 8, p. 240)

The emphasis the candidate places on herself as a legitimate knower is seen in how she expresses her sense of authority over the findings by using the first person in 'I am able to…', 'I choose', 'I construct, deconstruct and re-construct…', and so forth. This authority is implicitly legitimated on the basis of the candidate being a particular kind of knower, which she has set up in the rationale for the study by asserting that the topic is 'fundamentally a 'black' story, with all the attendant violence and trauma that is embedded in the 'black' body' (Dissertation 8, p. 16).

The candidate also emphasises her legitimate knower status by constructing the contribution as having personal implications for her own identity and that of her broader family. This is evident in how she personalises the findings of the study, as shown through claims such as 'I see …', 'my maternal grandmother…', 'as I continue my never-ending game…', 'I imagine…' and 'my country':

> …and I see next to her, my maternal grandmother Lettie admiring her own prominent cheekbones — as high and fine and proud as Saartjie Baartman's… as I continue my never-ending game of make-believe, I imagine a South Africa as my country that can, at long last, celebrate being really free.
>
> (Dissertation 8, p. 240)

The candidate thus emphasises subjective relations between herself (the knower) and the phenomenon she is studying (understandings of displacement, interpreted through the family album). In doing so, she foregrounds the fact that she has contributed a new legitimate knower to the field.

6.2.2. New ways of knowing

Enacting interactional strategies to justify an original contribution is typically achieved by demonstrating that the author has contributed a new legitimate gaze for understanding phenomena based on their cultivated ways of knowing. This strategy is typically adopted in dissertations in the sample that establish a rationale based on the argument that existing research is limited due to the way in which phenomena have come to be known by authors. The legitimate gaze is typically demonstrated by foregrounding what kind of understanding the author's gaze has generated – often emphasised through the use of first person.

For example, the author of an English literature dissertation that analyses themes of emigration, literary celebrity and the autobiographical turn in J.M. Coetzee novels foregrounds the understandings generated by his cultivated gaze (i.e. emphasising interactional relations). This is achieved by emphasising his authority over the findings (seen in use of first person in 'I have argued…' and 'I have contended…'), with little reference out to other studies:

> I have argued through this thesis that Coetzee's self-representations in his later fiction turn on an intimate negotiation of his relationship to South Africa… I have contended that Coetzee uses his international acclaim as a novelist and his emigration from South Africa to Britain and Australia as points of leverage in narratives...
>
> (Dissertation 11, p. 157)

Following these assertive claims, the candidate then draws on key scholars within the field to support the new perspective being offered, or he makes an argument for why the new perspective is superior to that of another scholar – in other words, he aligns with or distances himself from, other knowers. This is evident in the following where he aligns with the viewpoints of Billings (2009) and Attwell (1993):

> In Chapter 6 I quoted Billings's observation that in Coetzee's later fiction here is a crisis not of speech but of the speaker… This view chimes with my assertion in the Introduction… as Attwell puts it (*J.M Coetzee* 5), in the last fiction the authority of Coetzee himself is targeted for subversion in the characters made in his image.
>
> (Dissertation 11, p. 158)

The candidate therefore legitimates the contribution by foregrounding the authority of his gaze. This is done by strongly asserting his authority over the understandings generated from that gaze and it is done by aligning/disaligning with particular knowers – indicating to the reader that he not only recognises legitimate gazes in the field, but has also drawn on their ways of knowing to develop his own legitimate cultivated gaze.

6.2.3. Combining social strategies

When candidates argue that the research contributes a new knower of a topic and a new legitimate 'way of knowing', subjective strategies and interactional strategies are enacted which emphasise both subjective relations to kinds of knowers and interactional relations to

ways of knowing. For example, in a political studies dissertation on same-sex marriage in South Africa, the candidate demonstrates how her disposition and her particular ways of knowing have shaped the gaze she uses to understand the topic. This is evident in how she shows how her interpretation of the materials was guided by the insights afforded by perspectives such as 'contexts of care':

> Belonging is deeply affective, and therefore I examined the participants' emotional relationships with significant others through the lens of contexts of care, where I suggested that notions of 'home' inform their sense of belonging to an intimate community or kinship, and the creation of their own community (D Bell & Binnie 2000).
>
> (Dissertation 6, p. 266)

By demonstrating who or what has shaped her understanding of the materials, the candidate emphasises interactional relations to ways of knowing. She also, however, emphasises who she is as a person and how this has impacted the contribution. This is seen in the section entitled 'How I changed' near the end of the conclusion. Here, the candidate shows how her own knower traits impacted how she interpreted the participants' narratives and how her own experiences influenced the findings:

> As a feminist who is deeply critical of heteropatriarchal formations of power, and constantly seeking ways to subvert them, I was critical of marriage... as a consultant and activist frequently working with working-class communities on social justice issues, I am also aware of how deeply Constitutional rights have failed people. However, as a white, middle-class educated woman, it had worked for me. Therefore, I was sensitive to the ambiguities of rights on paper verses peoples' lived realities.
>
> (Dissertation 6, p. 277)

At this point, the candidate is foregrounding subjective relations to knowers by showing how aspects relating to her own self – such as being a feminist, a consultant and activist, being a white, middle-class education woman, and so forth – impacted on how she came to know the research. By emphasizing these points here the candidate is demonstrating that who she is has ramifications for the research and therefore for the contribution. The candidate therefore implicitly sets up the contribution as being original on the basis that a specific kind of knower, who embodies particular ways of knowing, has generated the findings.

The analysis presented in this section has revealed that candidates typically demonstrate their contribution by either foregrounding epistemic relations (through epistemic strategies) or social relations (through social strategies). When foregrounding epistemic relations, the contribution is typically demonstrated by producing a new object of study or a new method for understanding phenomena. Some candidates may also emphasise that they have contributed both a new object of study and an approach for enabling that object of study to be created. When foregrounding social relations, candidates will typically justify their contribution on the basis of them providing a new legitimate knower of their topic to the field, or by contributing a new legitimate gaze for understanding specific objects of study. At times, they may foreground both who they are and their unique gaze as the original contribution.

7. HOW THE STRATEGIES COME TOGETHER

This chapter has outlined the five core components that all dissertations in the sample included in some form or another. While treated as distinct parts in the analysis, in reality, these components can be written as distinct sections of the dissertation, or candidates can weave aspects together, blurring the boundaries between the different components. Regardless of the structure, however, candidates will typically all establish a rationale for undertaking a study, explain what materials have been used and why they were chosen, explain how they have been studied, construct new knowledge based on the understandings generated from the analysis (in the broadest sense of the term) and demonstrate how the study as a whole has contributed original knowledge to the field. Starting the analysis from the point of what exemplary dissertations 'do', rather than classifying dissertations into various 'types' based on preconstructed categories, allows for a more nuanced understanding of the knowledge work enacted in the writing. Using Specialization, the analysis identified generalizable strategies for enacting these components in different ways – at the broadest level, using epistemic strategies and social strategies. The analysis thus revealed a common set of organising principles that underpin the variation seen in the way candidates build knowledge.

Considering all five components of the dissertation together, the pattern that emerges across the sample suggests that candidates tend to adopt one of two main paths when writing their dissertations: typically, they either follow a knowledge code pathway that emphasises various kinds of epistemic relations using epistemic strategies, or they tend to take a knower code

pathway that emphasises various kinds of social relations using social strategies. The benefit of analysing the components as separate parts enables a more nuanced understanding in that it allows for flexibility to accommodate shifts in knowledge-building practices across components. As such the analysis has purposely avoided assigning dissertations into fixed codes (e.g. to say that Dissertation 13 is a 'knowledge code' or a 'knower code') because this is not necessarily always the case. Despite dissertations tending to stay relatively within the domain of one code, many move around the Specialization plane. For example, the author of Dissertation 21 sets up the rationale of the study using epistemic strategies by arguing that it provides a new object of study. He then shifts to social strategies when explaining the materials and how they were analysed by foregrounding the use of a legitimate gaze. The historical cultivated gaze also comes to underpin the claims made when constructing findings, yet the author shifts back to epistemic strategies when constructing the contribution.

Treating the components as discrete analytical units enables the differences in writing across disciplines as well as within subject areas to be made more explicit. For example, all of the English literature dissertations in the sample (Dissertations 11, 12, 13, 19) followed the same pattern of strategy use. This was not the case with history dissertations (Dissertations 1, 2, 20, 21), which tended to move around the plane across the components. Dissertations in subject areas such as anthropology (Dissertations 5, 9, 10, 17), political studies (Dissertations 6, 14, 22) and sociology (Dissertations 7, 15, 16, 25) diverged completely, with some dissertations adopting predominantly epistemic strategies across all components (Dissertations 5, 14, 15, 16, 25) while others adopted mostly social strategies (Dissertations 9, 10, 17, 22, 7).

Analysing the dominate codes or organising principles used within and across the core components provides a way to understand doctoral writing without getting lost in the seemingly endless detail of what candidates choose to write about. This has important implications for pedagogy. Adopting an understanding of dissertations based on the organising principles of knowledge practices within each of the five core components allows a way to design pedagogy that is flexible to accommodate shifts in practices throughout dissertations, as opposed to assigning whole dissertations to different disciplinary 'types' from the onset. This enables doctoral writing to be reconceptualised in terms of the expectations of doctorates and what actual exemplary dissertations 'do' to meet those expectations rather than operating within the confines of disciplines or subjects – which are all too often treated as homogenous beings. Furthermore, in focusing on the organising principles of each component, pedagogy can be

designed in ways that are responsive to the needs of the individual candidate while at the same time benefiting from generalizable strategies that are able to make sense of the myriad choices without stripping back disciplinary nuances to the point of generic redundancy.

8. CONCLUSION

This chapter analysed 25 exemplary doctoral dissertations from the subjects of psychology, sociology, anthropology, history, political studies, African studies, English literature and archaeology. Using Specialization, it identified a set of generalizable strategies that candidates use to base their knowledge claims. Revealing the organising principles of knowledge-building practices in this way provides a means to understand the more macro strategies or 'rules of the game' underpinning the seemingly endless variation in doctoral writing, rather than accounting for each individual instance of the variation itself. Furthermore, it offers a method to analyse knowledge practices in writing that are not predetermined by subject area or preconstructed categories like 'social science' or 'humanities'.

The macro perspective afforded by this analysis has important insights for pedagogy in that it shows how doctoral dissertations do not necessarily stay within one code and that different kinds of strategies can be used for different purposes within each code. It also reveals how different core components can be brought together in different ways. The analysis has thus afforded an understanding of how the goals of the doctorate (i.e. the requirements, as set out in policy) are attended to using a set of generalizable knowledge-building strategies. To complement this perspective, an understanding of how candidates enact these strategies in detailed, practical terms, is necessary for establishing further pedagogical foundations. This requires an analytical tool that can unpack the *process* of building knowledge in different ways, according to the strategy being enacted, as well as provide a more specific level of analytical 'zoom' to see how this process occurs in detail. To do this, Chapters 7 and 8 use Semantics to analyse how candidates construct findings (component 4 from this chapter). This detailed analysis reveals the process of how candidates use strategies for shifting context-dependence of knowledge and strategies for shifting the complexity of knowledge to generate understandings and build new knowledge in varying ways.

CHAPTER 7
STRATEGIES FOR CONSTRUCTING FINDINGS:
Shifts in context-dependence and complexity

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1. INTRODUCTION

Chapter 6, using Specialization, revealed a set of epistemic strategies and social strategies candidates use when writing the five core components of the dissertation. The analysis showed how, by enacting different strategies, candidates can foreground different kinds of knowledge in their writing. For example, they can emphasise aspects to do with the nature of objects of study or procedures for generating objects of study, or they can emphasise qualities associated with knowers, or they can emphasise aspects of both. This enabled a better understanding of how different kinds of knowledge can be foregrounded as the basis of the claims being made, revealing one set of the 'rules of the game'. This chapter addresses a second set of 'rules' by considering how candidates build different kinds of findings in exemplary ways. For example, if a candidate wants to foreground significant knowers and use their ideas to construct new understandings of their materials, how do they go about making these connections in their writing? To address such concerns, the chapter turns to Semantics from LCT to consider one component of the dissertation, 'constructing findings' (see Chapter 6, section 5), in more detail.

In recent years, a number of studies have emphasised the importance of shifts in two main variables for successful knowledge-building (Blackie, 2014; Ingold & O'Sullivan, 2017; Macnaught et al., 2013; Maton, 2013; Maton & Doran, 2017b; Szenes, Tilakaratna, & Maton, 2015). The first involves movements in complexity from relatively common-sense everyday knowledge to more technical complex knowledge. Being able to shift the complexity of knowledge allows for smaller, simple meanings to be integrated and 'packed up' to form more complex meanings, and it allows complex meanings to be distinguished into smaller meanings. Both the 'packing up' and 'unpacking' is important for demonstrating knowledge of phenomena as well as building more complex knowledge (Maton, 2013). The second variable involves shifts in context-dependence from relatively concrete, specific knowledge to more generalizable and abstract knowledge. Being able to shift between context-dependence is necessary for moving from specific instances of materials to more generalised accounts which

can be transferred across contexts, as well as the inverse of being able to contextualise abstract knowledge to a specific problem situation (Maton, 2014a). These variables are key for understanding how candidates construct findings in doctoral writing.

In order to address the question of how candidates build different kinds of knowledge in exemplary ways when constructing findings, this chapter develops a set of conceptual tools for analysing key discursive strategies. Drawing on Semantics, these discursive strategies are understood as a set of 'semantic strategies' that enable candidates to shift the context-dependence and complexity of meanings. Such strategies allow candidates to weave between their materials, existing studies, other significant knowers, and the more abstract and complex theoretical or methodological approaches informing their research. Although focusing on only one component of the dissertation, the chapter demonstrates how such tools can be created, illustrating the potential for the future development of additional tools for analysing knowledge in doctoral writing.

2. UNDERSTANDING DISCURSIVE STRATEGIES AS 'SEMANTIC STRATEGIES'

Once candidates have collected their materials (e.g. interviews, surveys, participant observations and so forth) they need to select, assemble and discuss these materials to construct new understandings, which are then presented as findings. A dissertation cannot simply present unmediated 'raw' materials. Rather, candidates need to work with them in some way (such as discuss, analyse, compare to what is known) in order to generate knowledge claims to be able to make an original contribution. For example, they can interpret instances of materials and link this understanding to their own ideas or to other scholars' ideas. Candidates can also relate their explanations of the materials to other similar studies to either support what they have found or critique what others have found. Even when presenting direct quotations or tables of numerical data, which may seem like 'raw' materials, this material has necessarily been selected and assembled (i.e. mediated) in some way by the candidate. Importantly, candidates rarely do just one thing when constructing findings – i.e. they very rarely (if ever) only present descriptions of materials, or only engage in theoretical discussion that is never contextualised within materials. Rather, all the dissertations in the sample move consistently between various different kinds of knowledge when constructing their findings.

The pattern of how candidates work with different kinds of knowledge as they construct findings can be understood as a set of discursive strategies for shifting context-dependence and complexity of knowledge. Using Semantics, these strategies are understood in terms of epistemic-semantic gravity (a way of conceptualising context-dependence) and epistemic-semantic density (a way of conceptualising complexity). The discursive strategies face two ways – i.e. they do a lot of work in terms of context-dependence of knowledge, which is vital for constructing findings which have implications beyond the confines of the research context, and they do a lot of work in terms of complexity, as the candidate builds increasingly complex knowledge about their object of study. While showing many similarities and overlaps, the two sets of strategies are not the same. For this reason, both sets are presented individually. The next section (Section 3) outlines a set of 'context strategies' – i.e. discursive strategies that shift the context-dependence of knowledge. Following this (Section 4), a set of 'complexity strategies' – i.e. discursive strategies for shifting complexity of knowledge, are presented.

3. SHIFTING CONTEXT-DEPENDENCE: CONTEXT STRATEGIES

One set of discursive strategies candidates use when constructing their findings shift the context-dependence of the meanings being constructed. This enables candidates to establish links between their own research context and other contexts in the wider field. Drawing on the concept of epistemic-semantic gravity from Semantics to better understand how they work in texts and the purpose they serve, these strategies are interpreted as 'context strategies'. Briefly, epistemic-semantic gravity (ESG) refers to 'the degree to which meaning relates to its context' (Maton, 2014b, p. 110). It is measured along a continuum of different strengths: stronger epistemic-semantic gravity (ESG+) is when the meanings are more closely related to their 'social or symbolic context of acquisition or use' and weaker epistemic-semantic gravity (ESG–) is when meaning is less dependent on its context (Maton, 2014b, p. 110).

In the case of constructing findings, context-dependence is most obvious when candidates shift between their materials and outside knowledge, such as a theoretical framework. For example, when a candidate presents a direct quotation from the materials, such as the following:

> …I sort of accepted that maybe this is... psychological... I was open to it, that's... you know... And I decided well, you know, it's up to me, no-one else can do

> anything but me. And if it's a psychological thing then it's a matter of me deciding how to... live with it or how to manage it or whatever.
>
> (Dissertation 25, p. 137)

the meanings enacted in the quotation are strongly bound to a particular participant in a particular place and time. In this sense, the meanings are strongly dependent on the context (ESG+). When theory is drawn on to explain the meanings being enacted here, however, such as in the following:

> The insistence that she not let her symptoms be explained away as a psychological issue, despite receiving anti-depressants as a treatment, shows the overall discontinuity caused by attempting to explain fibromyalgia and MUS in a purely biomedical approach. The limitation appears where Cartesian dualism in the biomedical approach denies the link between psychosomatic and physiological factors as causes and outcomes of illness (Arber, 2004).
>
> (Dissertation 25, p. 137)

one can get a sense of the shift in context-dependency of the knowledge being constructed. By understanding this example using the 'biomedical approach', which the author claims is limited due to a 'Cartesian dualism' that 'denies the link between psychosomatic and physiological factors as causes and outcomes of illness', the meanings are no longer bound to a single participant in a specific place and time. Rather, the meanings have become abstracted and generalised beyond a single instance to rather a more theoretical discussion. In this sense, understanding the limitations of the 'biomedical approach' – an abstract, theoretical construction – is not bound to any one research participant or research site. The meanings are thus weakly context-dependent (ESG–). While this shift may make intuitive sense, a more explicit understanding of *how* candidates go about enacting such shifts in writing is needed if pedagogic implications are to be developed.

To gain a more explicit understanding of how candidates shift and weave between different levels of context-dependence of meanings, a set of eight context strategies have been identified in the sample. These strategies are presented in Table 7.1 and are ordered according to ESG, given that they enact different levels of context-dependence. The table of strategies will be explained from left to right, bottom to top – i.e. starting from strongest ESG to weakest ESG and working through each level of delicacy ('type', 'subtype' and 'sub-subtype' columns – see

Chapter 4, Methodology) using examples from the sample to exemplify. The relevant context strategy name is indicated using italics in the discussion below.

Table 7.1. Context strategies

ESG– ↕ **ESG+**	**CONTEXTS BEYOND STUDY**	ADVANCING	THEORISING
			GENERATING
		BROADENING	BRANCHING
			BRIDGING
	CONTEXT OF STUDY	UNDERSTANDING	CLAIMING
			INTERPRETING
		REPRODUCING	SUMMARISING
			PRESENTING

Important to note is that the examples used to exemplify the strategies in the following sections are not intended to represent the entire component from which they were taken. All dissertations will work with a variety of different strategies when constructing findings. This is explored more fully in Chapter 8. The purpose of the examples provided here is to help define and exemplify the set of semantic strategies identified in the sample.

3.1. Context of study

When candidates construct findings, a main distinction can be made in terms of whether they use strategies that look towards their materials from their specific study site (i.e. strongly dependent on context, ESG+), or whether they enact strategies that look beyond their research context to outside existing knowledge or to the field more broadly (i.e. weakly dependent on context, ESG–). When enacting *context of study* strategies, candidates will construct findings relating to their materials, based on their own understandings. In this sense, they do not draw on knowledge from other research contexts nor do they project their understandings to the field more generally. As such, the meanings being created are strongly bound to the specific instances of materials under investigation.

Two ways in which candidates can construct findings using *context of study* strategies is by enacting the subtype strategies of *reproducing* and *understanding*. The strategy of *reproducing* includes all instances where candidates incorporate aspects of their materials in as near to 'raw' form as possible. In this sense, the meanings are strongly bound to a specific instance, in a specific time and place – i.e. they are strongly context-dependent (ESG+). For example, if quoting from an interview transcript, the meanings produced by the participant are bound to that particular individual from that particular context of study, at that particular time. *Reproducing* can also be achieved by including images of artworks or artefacts, or tabulated summaries of numerical data and so forth.

At a more nuanced level within *reproducing*, a further distinction can be made between the sub-subtype strategies of *presenting* materials in verbatim form (i.e. quotations or reproductions of photographs or artworks and so forth) and *summarising* descriptions of materials (including tabulated numerical data). *Presenting*, the relatively strongest ESG strategy identified in the sample, includes 'raw' verbatim materials from the context of the study, such as direct quotations or reproductions of images/artefacts etc.[11] This strategy has the strongest context-dependence of meaning because the material is not altered in any way – i.e. the meanings have not been adapted (for example, through summarising) in a way in which they can be understood outside of the immediate context in which they were generated. *Presenting* affords a way to present unmediated meanings from the context of study itself – often used for illustrative purposes or as evidence when generating claims.

In comparison, the second sub-subtype strategy within *reproducing* is *summarising*. This strategy includes all instances where candidates have slightly altered materials from their original form, either by summarising the main point, or including numerical data in tabulated form. In this sense, the meanings created by *summarising* strategies are marginally less dependent on the context, as the candidate has re-contextualised them to be used in the study. For example,

[11]I acknowledge that by selecting and re-contextualizing instances of materials in the dissertation, the candidate has effectively removed them from their original context (i.e. the context-dependence has weakened). However, for the purpose of analysing how candidates construct findings, I have considered any inclusion of verbatim materials through the strategy of *presenting* to enact meanings most closely grounded to the study site and therefore the strongest form of ESG.

> Table 4.4 shows that elementary occupations or unskilled work formed a similar percentage amongst natives and South African or internal migrants in comparison to the working population as a whole in 1980: 21 per cent and 26 per cent respectively, versus 22 per cent amongst the whole population.
>
> (Dissertation 16, p. 122)

Here, the candidate has summarised her raw data by providing statistics that encapsulate the main distinctions between population groups. In doing so, she has re-contextualised individual figures (which would have little meaning when taken out of context) into a format that is relatively less dependent on the original context of production in which the figures were generated. In this sense, she has marginally weakened the ESG. *Summarising* strategies therefore allow candidates to include condensed descriptions of materials without having to incorporate extensive verbatim extracts. This means that they can highlight salient aspects of the materials relevant for the discussion in a more concise manner.

The second subtype strategy within *context of study* is *understanding*. This strategy enacts relatively weaker context-dependence of meanings than *reproducing* in that it is no longer bound to specific instances of materials but rather starts to generate more generalised understandings about the materials. *Understanding* strategies include all instances in writing where candidates attempt to make sense of their materials using their own ideas, as opposed to using existing knowledge from other studies (which is why it resides in the relatively stronger range of *context of study* rather than *contexts beyond study*). In this sense, the candidate has moved slightly away from the concrete materials themselves in order to generate an understanding of what they might mean for the study at hand. At a more nuanced level, *understanding* strategies can be enacted using the sub-subtype strategies of *interpreting* and *claiming.*

At the relatively stronger range of ESG, *interpreting* includes all instances where the candidate explains aspects of the materials, for example:

> As displayed in Helena's above narrative, and through the experiences of other participants in this study, the lack of clarity in fibromyalgia as a label additionally undermines the potency of the diagnosis to explain and provide relief for patients.
>
> (Dissertation 25, p. 145)

Here, the candidate is still looking towards the materials from the context of study, but instead of quoting or summarising them, she is developing a more generalised account of their implications through an interpretation. In doing so, the meanings are no longer strongly bound to the specific instances of materials in a specific context – i.e. by interpreting and explaining the materials in a more generalised way, the candidate has effectively weakened the ESG of the meanings. This enables candidates to (metaphorically) 'step back' from the concrete instances of materials in order to make sense of them and formulate an understanding of the implications of the concrete meanings.

The second *understanding* sub-subtype strategy of *claiming* weakens the ESG of the knowledge further still by moving another step away from the concrete particulars of the materials or interpretations of the materials by generating claims based on the understanding that has been constructed. For example, after discussing the role of education and occupational status among Zimbabwean migrants, the author of Dissertation 5 makes the following claim:

> Irrespective of one's level of education or occupational status, there is a vulnerability Zimbabwean male migrants experience for their quality as outsiders.
> (Dissertation 5, p. 130)

Here, the candidate has weakened the context-dependence of meaning by developing a generalised understanding about the materials as a whole, rather than referring to a single instance of materials through a quotation or by summarising. By doing so, the meanings are no longer bound to a specific participant in a specific time and place. Rather, the implications of the participant responses as a collective have been captured in this more generalised claim (i.e. he has weakened the ESG). In doing so, the candidate is able to construct more generalised accounts of the materials, which can then be more easily linked out to existing knowledge in the field.

3.2. Contexts beyond study

Returning to the main distinction between kinds of context strategies – i.e. between strategies that build relatively context-dependent knowledge relating to the context of the study and those that build relatively abstract knowledge relating to contexts beyond the study, the latter form of strategy is now considered. When enacting *contexts beyond study* strategies, candidates look

beyond their research context to outside existing knowledge or to the field more broadly in order to construct more generalised findings. In this sense, the meanings being created are weakly bound to the specific instances of materials under investigation (i.e. weakly dependent on context, ESG–).

Two ways in which candidates can construct findings using *context of study* strategies is by enacting the subtype strategies of *broadening* and *advancing*. At a relatively stronger ESG level, the subtype strategy of *broadening* includes all instances where candidates reach out to existing knowledge in the field. This can include other empirical studies, relating to other significant knowers or to theoretical and methodological frameworks. The strategy of *broadening* weakens the context-dependence of meaning by expanding the findings being constructed to contexts outside the immediate study site. In this sense, the meanings created are no longer bound to the specifics of the materials but are rather discussed and understood in relation to more generalised understandings produced in other studies or in theoretical or methodological approaches.

At a more nuanced level within *broadening*, a further distinction can be made between the sub-subtype strategies of *bridging* and *branching*. The strategy of *bridging* associates meanings produced in existing studies with the understandings generated by the candidate of his/her own materials. In effect, the meanings are broadened out to similar empirical research contexts. This is often done to either support the understandings that have been developed by the candidate, or this strategy can be used to refute existing empirical knowledge. For example:

> These results provide support for previous research by Bor (2007) and Nattrass (2006) who both found government effectiveness to be related to HIV policy-making.
>
> (Dissertation 14, p. 117)

Here, the candidate has weakened the context-dependence of the understanding produced from the materials by comparing those meanings with other existing knowledge in the field (in this case, produced in studies by Bor (2007) and Nattrass (2006)). In doing so, the candidate is constructing more generalizable implications of her materials, enabling her findings to have wider relevance for the field. Using this strategy, she is also able to demonstrate how her new

findings compare to that which is known (i.e. existing knowledge), which is one way in which candidates can demonstrate their original contribution.

The second sub-subtype strategy within *broadening* is *branching*. This strategy further weakens the context-dependence of meanings by reaching out to, and incorporating more abstract knowledge, such as theoretical frameworks or methodological approaches. This is often seen in the use of theoretical concepts for furthering the understandings of the materials, for example:

> In terms of Bourdieu's (1986) theory, different forms of cultural capital exist and may be interchangeable at different times in determining one's authenticity and social value, for example, in this instance, one's value as a 'real' township boy. Some boys may not have objectified cultural capital, such as cars and money, but they may not have cultural capital such as skills to win girls over and the right kind of 'township' clothes, that authenticate them as 'real' township boys.
>
> (Dissertation 23, pp. 220–221)

Using the *branching* strategy to incorporate constructs such as 'cultural capital' in this example results in weaker ESG because such concepts have been technicalised to such a degree that their meanings are now relatively context-independent. Drawing on such concepts therefore has a generalising effect on the findings being constructed – i.e. the meanings being constructed are less dependent on the specific boys being interviewed in this specific study. *Branching* therefore enables candidates to develop theorised accounts of their concrete materials, which affords a more complex understanding and one that is generalised to a degree that makes it more applicable to other research contexts (the more abstract the knowledge, the more transferable across contexts).

The second subtype strategy within *contexts beyond study* is *advancing*. This strategy enacts relatively weaker context-dependence of meanings than *broadening* in that candidates use it to advance new knowledge generated from their study to the wider field. This strategy is typically enacted in order to make broad generalisations about the materials as a whole, or for advancing theoretical or methodological developments that may have implications for future research contexts in the wider field. *Advancing* thus enacts considerably weaker ESG as the meanings are no longer tied to the specific study but rather look towards future empirical research contexts and theoretical/methodological development in the field. At a more nuanced level,

advancing strategies can be enacted using the sub-subtype strategies of *generating* and *theorising*.

Generating, a relatively stronger ESG strategy within *advancing*, includes instances where candidates generate new empirical findings about an object of study (as opposed to single instances of materials). In this sense, the candidate will draw on the materials as a collective in order to generate broad empirical claims that have implications for other similar empirical studies. For example:

> All youth were found to orient themselves toward an aspired 'possible self', one that was invariably defined as successful in terms of material wealth and a form of stability that was unknown to their parents' generation. All thereby embraced the dominant educational ideology that presents schooling as the tool for such positive social change.
>
> (Dissertation 15, p. 235)

Here, the candidate shows how 'all youth' – i.e. all the participants in the study (which could, perhaps be extended to the region more generally), aspired to a particular ideology. She is therefore no longer accounting for a particular participant in a particular time and place, but is now producing a more generalised account of the findings of the study as a whole. As such, the meanings being enacted here are weakly bound to the context of the study. *Generating* strategies are therefore enacted in order to develop generalizable empirical claims based on the collective analyses of all materials across a whole study. In doing so, the findings have greater potential to impact or have relevance for similar empirical studies than if the meanings created were only applicable to the specific research context at hand.

Theorising, the sub-subtype strategy with relatively weakest ESG within *advancing* (and within the set of context strategies as a whole) relates to the advancement of new theoretical or methodological findings that may have implications for indefinite potential research contexts. 'Indefinite' signals to the fact that the implications of the findings are not empirically limited to similar studies; rather, the implications can impact any future study that draws on the theory or methodology being extended. For example:

> The findings significantly elaborated the theoretical understanding of the role of primary appraisal constructs in the stressful transaction and suggest that their influence is highly intricate and has varying impacts across time.
>
> (Dissertation 24, p. 305)

Here, *theorising* has been enacted to extend an existing theoretical understanding of primary appraisal constructs. In doing so, the candidate is able to construct theoretical findings that may benefit other future studies using the same theoretical approach. This is afforded by the strategy of *theorising* in that the meanings constructed are now at a considerably context-independent range and are no longer bound to her specific study and specific results but rather impact the development of an abstract constellation of knowledge.

The above description of discursive strategies, when understood in terms of shifts in context-dependence using ESG, reveals a set of context strategies candidates enact when constructing findings. These strategies enable candidates to develop understandings of their own materials, as well as link those understandings to existing knowledge and develop generalizable implications of their materials which can be taken up in the wider field. Moving between different contexts is thus a key part of constructing findings. As discussed in Section 2, however, building complexity of knowledge is also an important part of constructing findings in dissertations. Candidates need to construct understandings of their materials that move beyond everyday, simple meanings to more complex meanings. This is often done when broadening out to other contexts, which enables candidates to incorporate academic meanings into their understandings. To explore this process in more detail, the next section considers the discursive strategies in relation to epistemic-semantic density (ESD), revealing a set of 'complexity strategies'.

4. SHIFTING COMPLEXITY: COMPLEXITY STRATEGIES

A second set of discursive strategies candidates use when constructing their findings shift the complexity of the meanings being enacted. This enables candidates to build increasingly complex understandings of their materials over time, often by incorporating existing academic knowledge from the wider field. Drawing on the concept of ESD from Semantics to better understand how they work in texts and the purpose they serve, these strategies are interpreted

as ‘complexity strategies’. Briefly, ESD relates to the complexity of meanings by determining the *relationality*, varying levels of *differentiation* and *resonance* of meanings (Maton & Doran, 2017a, p. 57). In other words, it measures the degree to which meanings are related to other meanings, how precise the referents of meaning become, and the potential for meanings to resonate out to other meanings in a larger ‘constellation’ of meaning (see Chapter 3, Section 3 for a more detailed explanation).

As with ESG, ESD is measured along a continuum of strengths: stronger epistemic-semantic density (ESD+) refers to practices that exhibit stronger complexity through the condensing of many meanings into instances of practice, while weaker epistemic-semantic density (ESD–) relates to practices with relatively less complexity where fewer meanings are condensed. When constructing findings, candidates can add relations between meanings associated with their materials using their own understanding, or they can add more complex academic meanings from the field (such as those afforded by existing studies or perhaps by a theoretical framework). Take, for example, the following direct quotation from a research participant discussing Zimbabwean men’s attitude to South African women:

> Musanyeperwe mudhara. Hakuna asingavade vakadzi vechiXhosa.
> Dude, don’t let anybody lie to you. There is not a single [Zimbabwean] man who does not like a Xhosa woman (Chenge, Stellenbosch).
>
> (Dissertation 5, p. 226)

The knowledge being expressed here is enacted in everyday language. The meanings are therefore relatively simple (i.e. ESD–). The candidate then adds considerable complexity when he explains the implications of such responses, drawing on concepts from the theoretical framework, Critical Studies of Men:

> Most of the study participants project the imagery of masculinities as predatory heterosexuality. Generally, the women talk by Zimbabwean male migrants who took part in the study expresses hetero-masculinity characterised by the eroticisation of black South African women. The patriarchal, masculinist desire to subordinate the female body finds expression in the study participants’ comments that black South African women…
>
> (Dissertation 5, p. 227)

Here, complexity of meaning is increased as additional meanings are added as the candidate makes sense of the materials. This is particularly evident in the use of theoretical concepts such as ‘masculinities’, ‘heterosexuality’, ‘hetero-masculinity’, ‘eroticisation’, ‘patriarchal’ and so forth.

In order to build such complexity, however, a number of nuanced steps are enacted in the writing using a range of complexity strategies. To explore the process of building and shifting complexity in more detail, this section considers eight common complexity strategies candidates enact when constructing their findings. These strategies are presented in Table 7.2 and are ordered according to strength of ESD. The strategies will be explained from left to right, bottom to top – i.e. starting from weakest ESD to strongest ESD and working through each level of delicacy (‘type’, ‘subtype’ and ‘sub-subtype’ columns). As with ESG, the relevant complexity strategy name is indicated using italics in the discussion.

Table 7.2. Complexity strategies

ESD+ ↕ **ESD–**	**ACADEMIC MEANINGS**	CREATING	CONSTELLATING
			CLUSTERING
		LINKING	COMPACTING
			ASSOCIATING
	EMPIRICAL MEANINGS	ELABORATING	CONSOLIDATING
			DISTINGUISHING
		EXHIBITING	ARRANGING
			PORTRAYING

4.1. Empirical meanings

When candidates construct findings, a main distinction can be made in terms of whether they use complexity strategies that build relatively simple *empirical meanings*, typically using their own understanding; or, whether candidates enact strategies that build more complex *academic meanings* which resonate out to, and create links with, technical concepts from the broader field. When constructing *empirical meanings*, the ESD remains relatively weak due to the fact

that the candidate is working with the available meanings imbued in the materials and is adding relatively simple meanings, based on their own knowledge. At this stage, complex knowledge generated in existing studies or in theoretical frameworks and so forth is not incorporated into the findings being constructed.

Two ways in which candidates generate *empirical meanings* is by enacting the subtype strategies of *exhibiting* and *elaborating*. The strategy of *exhibiting* includes all instances where candidates present the materials in original (or near to original) state, such as through quoting or summarising, with no embellishment – i.e. with relatively few additional meanings being added. In this sense, the meanings remain relatively simple (ESD–) given that at this point, the candidate has yet to connect these meanings out to other meanings. For example, when including a quotation from the participant, only the original meanings expressed in the interview are enacted in the writing.

At a more nuanced level within *exhibiting*, a further distinction can be made between the sub-subtype strategies of *portraying* materials in their simplest 'raw' form (i.e. through quoting) and *arranging* materials in a particular way in order to re-contextualise them for use in the dissertation. *Portraying*, the relatively weakest ESD strategy identified in the sample, includes the meanings imbued in materials in their original state – i.e. they have not been altered or added to in any way. This enables candidates to provide (as near to) 'real' or unmediated representation of the materials used in the study. This can be particularly useful when reproducing an image of interest or to capture a remark made by a participant and so forth.

The second sub-subtype strategy within *exhibiting* is *arranging*. This strategy is used to assemble and organise materials in a way that suits the needs of the candidate, without significantly changing the meanings being expressed. The strategy has slightly stronger complexity than *portraying* because although new meanings have not yet been added, the existing meanings of the materials have been adjusted into a new form – typically through the condensing of many simple meanings together (for example, when summarising). This is evident in the following, where the author summarises a period in political figure Msimang's life:

> When Msimang returned to Johannesburg in 1922, he, together with R. V. Selope Thema, founded the Bantu Guild Ltd whose main function was to collect rent for

> the property owners of Sophiatown and Alexandra, and also to advise black people on business matters.
>
> (Dissertation 21, p. 181)

The candidate could have quoted directly from sources using the strategy of *portraying*, but instead, he summarises the source to get the main points across more succinctly. In doing so, he has effectively condensed many simple meanings together to create a more condensed stance. He has not, however, added any additional meanings at this point which would create a more complex understanding of the material. Rather, *portraying* is used here to build relatively simple contextual meanings about the object of study.

The second subtype strategy within *empirical meanings* is *elaborating*. This strategy enables candidates to add simple meanings, based on their own understandings, to the findings being constructed. As new meanings are added, so the complexity of meaning increases; hence why *elaborating* enacts relatively stronger complexity than *exhibiting*. *Elaborating* strategies are enacted by the sub-subtype strategies of *distinguishing*, which discerns between similar simple meanings, and by *consolidating* strategies that combine simple meanings into more condensed stances. *Distinguishing* occurs in parallel to the ESG process of *interpreting* whereby candidates differentiate between different simple meanings associated with their materials in order to create new understandings about them, for example:

> Even with this variety, there seems to be a limited range of those subjects on which the finesse of conventional techniques and manners were used. For instance, the eland especially, as well as a few other medium to large antelope and then some types of human figures appear to have been depicted using a diversified colour palette and technical repertoire.
>
> (Dissertation 18, p. 151)

Here, an archaeological candidate *distinguishes* between the simple meanings relating to how the figures (e.g. the eland, large antelope and human figures) have been painted, both in terms of colour and technique. In doing so, he enacts relatively stronger complexity (ESD+) than *exhibiting* strategies in that he is now creating new meanings by drawing on a range of simple meanings from the materials and assembling them in new meaningful sequences. *Distinguishing* strategies therefore provide a starting point for candidates to arrange and

organise existing meanings imbued in materials and to start adding additional meanings from their own understanding as they generate more complex interpretations of the materials.

The second *elaborating* sub-subtype strategy of *consolidating* strengthens the ESD of the knowledge being constructed even more by bringing together the meanings which have been distinguished into a more condensed knowledge claim. The stance is more complex because the *consolidating* strategy embeds multiple meanings – from those in the original materials as well as from the candidate's own knowledge, into the findings being constructed at that point in time. Continuing with the example provided for *distinguishing* above, the following extract shows how the candidate consolidates his understanding of the simple meanings relating to the materials (in this instance, rock paintings), as well as the meanings he has distinguished about colour use and technique:

> It is therefore possible that the range of subjects was fairly limited in the earlier periods of painting production and progressively increased with time.
>
> (Dissertation 18, p. 151)

The strategy of *consolidating* therefore enables candidates to consolidate multiple simple meanings together to form more condensed and complex understandings of materials.

4.2. Academic meanings

Returning to the main distinction between kinds of complexity strategies – i.e. between strategies that build relatively simple *empirical meanings* and those that build relatively complex *academic meanings*, the latter form of strategy is now considered. When candidates enact *academic meanings* strategies, they increase the complexity of the knowledge being constructed (i.e. ESD+) by incorporating complex existing knowledge and creating links to technical meanings and understandings in the wider field.

Two ways in which candidates can construct findings using *academic meanings* strategies is by enacting the subtype strategies of *linking* and *creating*. At a relatively weaker ESD level, the subtype strategy of *linking* includes all instances where candidates create links between their findings and those revealed in existing studies or frameworks (such as specialist theoretical or methodological approaches). As a result, the added meanings from existing

knowledge increases the degree of complexity of meaning being constructed, as these existing meanings are themselves, products of complex research and intellectual work.

At a more nuanced level within *linking*, the sub-subtype strategies of *associating* and *compacting* are used to establish connections to academic meanings. At a marginally weaker ESD level, the strategy of *associating* creates connections between the understandings developed from the candidate's own knowledge with those generated in existing empirical studies. In this sense, candidates associate their own understandings with those from other research contexts. In doing so, the strategy amplifies the complexity of the knowledge being enacted in that new complex meanings become imbued in the findings being constructed. This is evident in the following example, whereby the candidate associates the findings of existing studies with her own understandings:

> Studies have argued that SVAW affects community and cultural cohesion and stability (Seifert, 1994, 1996; Alison, 2007). The participants in this study did not seem to be aware that SVAW had such an effect.
>
> (Dissertation 7, p. 199)

Here, the candidate has used the *associating* strategy to incorporate additional complex findings by creating a link (in this case through a comparison) to findings from other studies. This not only enables a way for the candidate to build more complex understandings of her own materials, but it also enables her to engage with existing knowledge to demonstrate her understanding of complex findings already in existence in the wider field.

The second sub-subtype strategy within *linking* is *compacting*. This strategy adds considerable complexity by incorporating technical meanings into the knowledge being constructed. A typical example of how technical meaning can be compacted into the findings is through the use of theoretical concepts. Such concepts hold technical meaning in that they are already pre-condensed with multiple complex meanings due to their location within a specialised domain of practice, such as theoretical framework (see Chapter 3, Theoretical Framework). An example of such strategy use can be seen in the following:

> Thus the definition of "boy" here is premised upon difference; that it, it consists of opposite and distinct traits that point back to the sexed body (Butler, 1990a). According to a Butlerian understanding, sex is seen to cause gender and what one

> *does* (welding, servicing the car, hunting and so on) must coincide with what one *is* (masculine).
>
> (Dissertation 3, p. 222)

Here, the candidate has subsumed the technical meaning from the theoretical understandings of 'sexed body', 'gender', 'masculinity' and so forth in order to explain her materials. As such, more complexity is added than if she had just *associated* her findings with other empirical studies in the field. Rather, she has compacted the theoretical meanings into the knowledge she is constructing at this point. Using technical concepts in this way enables candidates to build considerably more complex understandings of their materials that engage with existing sophisticated frameworks and understandings in the field.

The relatively strongest ESD subtype strategy identified in the sample is *creating*. This strategy refers to all instances where new potential links to future academic meanings are established. This includes linking out to similar empirical studies as well as more stable bodies of technical, abstract knowledge, such as theoretical or methodological frameworks. *Creating* is typically enacted near the end of discussions of materials, by which stage the candidate has built considerable complexity by employing a variety of complexity strategies.

At a more nuanced level, *creating* strategies can be enacted by the sub-subtype strategies of *clustering* and *constellating*. *Clustering,* a relatively weaker form of *creating,* involves creating new relations to potential empirical studies – i.e. the understandings constructed by the candidate are condensed to such a degree that they can offer insights for other future empirical studies in the field. In the following example this is seen in how the condensed findings have potential to resonate out to any/all other studies looking at issues of inclusivity in education:

> The pervasiveness of disability expertise in educational discourse for intellectually disabled people undermines the intent of inclusive education since it remains under the jurisdiction of the medico-psychological complex and outside of the practice of regular teachers.
>
> (Dissertation 4, p. 248)

Here, the candidate enacts a considerably complex understanding of disability and education by drawing on all the preceding meanings that have been established throughout the component. As such, it is a densely packed stance that offers complex insights for other studies

to draw on in future research. Enacting such a strategy therefore enables the candidate to contribute a sophisticated understanding of an object of study to the field, creating potential indefinite links to future empirical studies.

Constellating, the second and relatively strongest ESD sub-subtype strategy within *creating* (and across the set of complexity strategies as a collective), refers to instances where candidates create potential links to abstract knowledge that is not tied to any one research context or study, such as theoretical frameworks or methodological approaches. By enacting this strategy, candidates construct complex findings that resonate out to, and have implications for, constellations of knowledge in the field. For example, the following extract indicates how a candidate has constructed new understandings of theoretical knowledge that have implications for the future development of the theoretical framework of appraisal theory:

> In contrast to Lazarus's (1999) shift toward secondary appraisal, and prior theory and research that presented Motivational Relevance and Congruence as single item, static constructs, the findings indicated the highly complex and subtle role of primary appraisal in shaping emotion and long-term outcomes. The findings significantly elaborated the theoretical understanding of the role of primary appraisal constructs in the stressful transaction and suggest that their influence is highly intricate and has varying impacts across time.
>
> (Dissertation 24, p. 305)

By enacting the *constellating* strategy, significant complexity of meaning is added in that the findings not only incorporate existing technical meanings, but they also extend abstract, technical understandings of theoretical ideas. As such, the strategy enables candidates to create potential links to constellations of technical knowledge (such as entire theoretical frameworks) in the field.

5. SEMANTIC STRATEGIES AS CONCEPTUAL TOOLS

Identifying and analysing the above sets of context strategies and complexity strategies, in terms of what they look like and the affordances they provide, provides a more explicit approach for understanding how candidates construct findings in exemplary ways. Drawing on Semantics as a starting point for interpreting discursive strategies as semantic strategies, the

above analysis has, in effect, developed a set of concepts (seen in the set of context strategies and complexity strategies) for understanding how candidates shift the context-dependency and complexity of meanings when building knowledge. The schema of strategies can thus be interpreted as a set of conceptual tools for understanding exemplary knowledge-building practices enacted when constructing findings.

Developing these conceptual tools provides an important starting point for understanding how candidates construct findings. In identifying and characterising the two main kinds of strategies, the analysis reveals a set of basic 'building blocks' candidates use to construct different kinds of meanings, such as those formulated from their own understanding, as well as by drawing on existing knowledge from the field. It also reveals the key ways in which candidates shift the complexity of the knowledge they are constructing. This has important implications for pedagogy as it affords a more explicit understanding of the knowledge practices candidates enact in order to build different kinds of meanings when constructing findings. In effect, it addresses the question of 'what' – i.e. 'what kind of practices'.

Revealing what knowledge practices are key for constructing findings is a useful starting point for pedagogic development, as it makes the different strategies available to candidates more explicit and demonstrable. In doing so, however, it also raises the question of *how* these different strategies are brought together in writing. In other words, for pedagogic development, it is not enough to just know *what* strategies are available; it is also imperative that we are able to show *how* they are used in practice. For instance, how candidates select, sequence and negotiate different strategies when constructing their findings. A starting point to addressing this secondary concern is to analyse exemplary texts to understand how candidates enact configurations of strategies. Such an analysis, however, requires a specific set of conceptual tools – tools which this chapter has, in effect, created. Chapter 8 explores this next stage of development by enacting the schema of strategies identified in this chapter as conceptual tools (i.e. as translation devices) for analysing texts. It provides illustrative examples to demonstrate how this analysis can be conducted and the utility of the tools for revealing exemplary configurations of knowledge.

6. CONCLUSION

This chapter considered one component of the dissertation, *constructing findings*, in detail to reveal a set of discursive strategies candidates use to build knowledge. Using concepts from Semantics as a starting point, a set of 'context strategies' and 'complexity strategies' were revealed. The purpose and affordances of these strategies – namely, to shift the context-dependence and complexity of meanings – were described and discussed in relation to how they enable candidates to develop complex understandings of their materials that incorporate and/or link out to existing knowledge in the wider field. The analysis therefore revealed a set of basic 'building blocks' candidates use to construct findings – an important first step for pedagogic development. In doing so, the chapter demonstrates how concepts from LCT can be used to develop a set of conceptual tools for understanding the knowledge work enacted in doctoral writing specifically. While only considering one component of the dissertation, the analysis presented in this chapter demonstrates how conceptual tools can be developed, suggesting the potential for the development of further concepts and tools for analysing other components of the dissertation.

In developing a schema of semantic strategies for constructing findings, the chapter addressed the question of *what* knowledge practices candidates enact when building knowledge about their materials. In doing so, however, it raised the question of *how* these strategies come together in practice in meaningful ways. More specifically it raised the potential for the schema of semantic strategies to be interpreted as conceptual tools for analysing texts to reveal exemplary configurations of knowledge. Such an analysis could have significant implications for pedagogy, as it would not only enable the strategies to be made explicit to candidates (i.e. the 'what') but also how those strategies are enacted in practice (i.e. the 'how'). The potential of enacting the schema of semantic strategies as conceptual tools for analysing texts is explored in the following chapter.

CHAPTER 8
CONFIGURATIONS OF KNOWLEDGE:
Exemplary patterns for 'weaving'

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1. INTRODUCTION

The analysis presented in Chapter 6 used concepts from Specialization to create a set of conceptual tools for revealing how candidates construct the five core components of dissertations in different ways, by enacting different kinds of knowledge. Chapter 7 zoomed in on one of these components ('constructing findings') in more detail and, using Semantics, created tools to reveal a set of semantic strategies candidates use when constructing findings. This chapter builds on this analysis by using the schema of strategies as conceptual tools for analysing texts. In particular, the tools are enacted to show how candidates weave context and complexity strategies together in order to construct findings in exemplary ways.

Drawing on a range of different dissertations, the exploratory analysis undertaken in this chapter demonstrates how the tools are able to reveal three common configurations of strategies used regularly across the sample. In doing so, the chapter provides a starting point for showing how the tools not only reveal exemplary configurations, but also how they provide an in-depth, practical understanding of how candidates construct them in writing. It is likely that additional configurations would be revealed in further analyses; however, the point of the illustrative analysis undertaken here is to show how this can be done using the conceptual tools.

The implications of the illustrative analyses are discussed at the end of the chapter in relation to future pedagogic development. In particular, the potential for the conceptual tools to be further developed into diagnostic tools for supervisors to use to better understand where writing could be improved, is explored. Additionally, the potential for the tools to be developed into scaffolding tools, to provide candidates with practical examples of strategy configurations for them to enact in their own dissertation, is discussed.

2. DISCURSIVE STRATEGIES AS CONCEPTUAL TOOLS FOR CONTEXT-DEPENDENCY AND COMPLEXITY

Recent studies have shown the value of analysing knowledge practices using a set of context-dependence categories and/or complexity categories (Georgiou, 2016; Maton, 2014b; Maton & Doran, 2017b). These categories are always defined in relation to varying strengths of epistemic-semantic gravity (ESG) and/or epistemic-semantic density (ESD) as well as in relation to the data at hand, and are often presented in a 'translation device' (see Chapter 4, Methodology). Using such translation devices, studies have shown that tracing the different moves in context-dependence and complexity in writing can reveal why some texts build knowledge more successfully than others. Categories of ESG and ESD have also been successfully used as scaffolding tools in classroom practice for teaching undergraduate students how to write assignments (Ingold & O'Sullivan, 2017). These studies suggest the benefit of creating conceptual tools for understanding and teaching exemplary ways of constructing findings in doctoral writing.

Chapter 7 revealed a schema of different discursive strategies for shifting the context-dependence and complexity of meanings. Using Semantics, these strategies were understood and organised according to different strengths of ESG and ESD respectfully – i.e. as varying kinds of 'semantic strategies'. As such, the conceptual tools used in this chapter analyse context-dependence and complexity in relation to *epistemic* meanings specifically – i.e. meanings relating to formal definitions, specialist knowledge and empirical descriptions. They do not analyse *axiological* meanings associated with affective, aesthetic, ethical, political or moral stances.[12]

In order to enact the semantic strategies identified in Chapter 7 as conceptual tools for analysing texts here, two translations devices have been created. The first translation device for ESG, presented in Table 8.1 below, provides the conceptual tools for analysing shifts in context-dependence of knowledge practices. The second translation device for ESD, presented in Table 8.2, provides the conceptual tools for analysing shifts in complexity of knowledge. The translation devices depict three levels of analytical delicacy, ranging from two 'types', four 'subtypes' and eight 'sub-subtypes'. These different categories are ordered in terms of strength

[12] The potential limitations of only considering epistemic meanings in this analysis are addressed in Section 5 of Chapter 9 (Conclusion).

of ESG/ESD. The different categories have been explained at length in Chapter 7. For this reason they are not described in detail here.

Table 8.1. Translation device for context-dependence (ESG)

ESG–	**CONTEXTS BEYOND STUDY**	ADVANCING	THEORISING
			GENERATING
		BROADENING	BRANCHING
			BRIDGING
	CONTEXT OF STUDY	UNDERSTANDING	CLAIMING
			INTERPRETING
		REPRODUCING	SUMMARISING
ESG+			PRESENTING

Table 8.2. Translation device for complexity (ESD)

ESD+	**ACADEMIC MEANINGS**	CREATING	CONSTELLATING
			CLUSTERING
		LINKING	COMPACTING
			ASSOCIATING
	EMPIRICAL MEANINGS	ELABORATING	CONSOLIDATING
			DISTINGUISHING
		EXHIBITING	ARRANGING
ESD–			PORTRAYING

As Chapter 4 (Methodology) explains, the choice of whether ‘types’, ‘subtypes’ or sub-subtypes’ (or indeed further levels of delicacy which are distinguished) are used in analyses depends on the aims of the research. To illustrate the utility of the tools for understanding how candidates negotiate and sequence different strengths of context-dependence and complexity when constructing findings, the third level of ‘sub-subtypes’ is used. This level of analytic detail has been chosen to illustrate what a more detail, line-by-line analysis can reveal about

the knowledge practices candidates use to construct findings. In this sense, it provides an illustrative example of how the tools can be used at a fine-grained level and the insights such an analysis can reveal, rather than attempting to characterise the dissertation or component as a whole.

To complement the textual analysis using the translation devices, diagrams are used. These provide a synthesis of the analysis and are particularly effective for illustrating how knowledge practices shift over time. The analysis of context-dependence is diagrammed using semantic profiles. Semantic profiles are created using simple line graphs that are plotted according to the categories outlined in Table 8.1. These categories form the y-axis, starting from strongest ESG at the bottom, to weakest ESG at the top. The x-axis represents duration of time, in this instance, number of lines (see Chapter 4, Methodology for a detailed explanation). To illustrate the analysis of complexity, a formalism is used. Semantic profiles are useful for showing shifts in strengths of ESD over time, but they do not effectively show the effect the strategies have in terms of accumulating complexity. The formalism is argued to better capture and represent this accretion of complexity more effectively, which is why it is the preferred choice here. The creation of the formalism and its logic is stepped through in detail the first time it is used in Section 3 below.

The translation devices for context-dependence (Table 8.1.) and complexity (Table 8.2) are now enacted on select examples of texts to illustrate their utility for revealing exemplary configurations of strategies candidates enact when constructing findings. The affordances of the tools are then synthesised in Section 6.

3. CONFIGURATION 1: SUBSUMPTIVE WEAVING

The first configuration revealed through the tools is ‘subsumptive weaving’. This configuration builds, attaches and subsumes complex epistemic meanings over short lengths of text. It does this by enacting a range of context strategies that incorporate knowledge from outside the context of the study to understand the materials, as well as a range of complexity strategies that enable complex, technical meanings from theory to be condensed into the meanings being constructed.

‘Subsumptive weaving’ is exemplified in a knowledge code component from psychology, which conducted a qualitative study to understand parenthood decision-making practices of South African men and women using Butler’s (1990, 2002) theory of performativity and Taylor and Littleton’s (2006) narrative-discursive method (Dissertation 3). In this component, the candidate moves regularly between her materials (participant narratives, captured in interview transcripts) and theory in order to construct theorised understandings of gender performances.

An illustrative example of ‘subsumptive weaving’ is now analysed to show the utility of the tools for revealing and unpacking this configuration in explicit terms. The coded text (for both ESG and ESD) is presented in Table 8.3. It is first explained in terms of context-dependence, using a semantic gravity profile to illustrate the analysis. It is then explained in terms of shifts in complexity, which is illustrated using a formalism to show how meanings are carried forward as the text unfolds.

Table 8.3. Analysis of subsumptive weaving example

	EXTRACT	**ESG CODING**	**ESD CODING**
1	In order to maintain the positioning of mothers and fathers as distinct—and therefore both necessary to the child—it was imperative that participants maintain a binary model of gender, in turn sustaining the dualistic episteme of the "two-sex-model" and reinforcing the heterosexual two-parent norm as the ideal condition for childbearing (Folgerø, 2008).	branching	compacting
2	For example, the following extract argues that parents are better able to relate to same-gender children.	interpreting	distinguishing
3	**Extract 16** Anel (F2): I think that it's such a team effort, but I think that men and women also play a different role in kids' lives. […] Having daughters, I think, [would be easier] for a mother than having sons would be for a dad, er, than having sons for a mother. There are things that a woman can speak to about to a woman that a man can't (.) not in the same [way]. Like, my dad once went and bought me pads and tampons for me when I was in std. six and it wasn't weird at all because my mom was sick and my dad was going to town. When he came back we sort of tortured him and said, "How did you ask the lady for it?" [Laughs] We tortured him about it. But, you know, that type of thing, I think, is important to divide between one parent and the other.	presenting	portraying
4	In this extract, Anel expresses support for equally shared co-parenting, as given by the egalitarian gender scripts, yet she ultimately talks against this in order to argue for the distinct roles that women and men lay in their children's lives.	branching	compacting
5	She renegotiates her earlier position on the topic (discussed prior to this), that parenting should be "a team effort" and not determined by gender—as evidenced by the words "but" and "also" in the first sentence.	interpreting	distinguishing
6	Here she advocates the gender-based division of tasks between heterosexual parents.	claiming	consolidating
7	Women are constructed as being able to relate to daughters more easily because they have certain experiential knowledge that men do not (because they also menstruate).	interpreting	distinguishing
8	So, in this case, difference and similarity are explicitly predicated on the grounds of biology.	claiming	consolidating
9	Circumscribed as a woman's issue and associated with male embarrassment, it is the mother's task to take care of the daughter's needs in this regard and to purchase tampons for her.	interpreting	distinguishing
10	The crux of this story is that the father's performance of this task was exceptional. The fact that anyone can buy tampons whether or not s/he is able menstruate is not considered.	claiming	consolidating
11	Instead, "real" biological differences are named as justification of distinct gender roles. The entrenching of the woman/man dichotomy in biology performs a naturalising discursive function in that it "constructs a 'natural' and 'universal' connection between anatomy, character, and desire" (Folgerø, 2008, p. 137).	branching	compacting

3.1. Context strategies

The choice and sequence of context strategies employed over the course of the text is illustrated in an ESG profile in Figure 8.1 below. The profile has been 'deconstructed' insofar as the purpose of each strategy is summarised on the profile to show what knowledge work is occurring at each point identified in the analysis. Each numbered point on the profile corresponds to line number in the textual analysis presented in Table 8.3 above. The profile is now explained in terms of how the candidate sequences together, and shifts between, different context strategies (highlighted in italics in the discussion) in order to construct theoretical understandings of her materials.

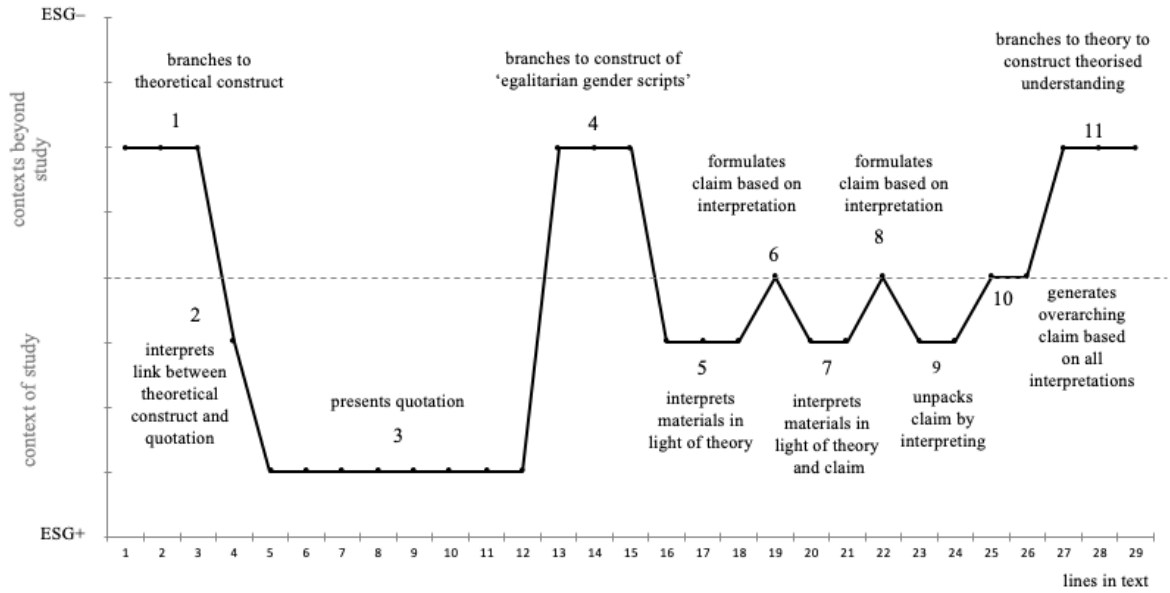


Figure 8.1. Deconstructed ESG profile of subsumptive weaving example

The candidate starts the text by introducing the theoretical concepts ('binary model of gender', the 'dualistic episteme of the two-sex-model' and 'heterosexual two-parent norm') that will be used to understand the materials (point 1). In doing so, she is *branching* beyond the context of her study (i.e. weakening the ESG) in order to draw on existing knowledge from an outside context – in this case an abstract theoretical framework – which can then be applied to the context of her study. In order to bring this abstract knowledge into dialogue with the materials, the candidate strengthens the context-dependence (i.e. stronger ESG) by *interpreting* the abstract meanings into more concrete terms (e.g. 'parents are better able to relate to same-gender children') at point 2. By doing so, she in effect translates the theoretical meanings into

real-world concrete instances, which can then be more easily identified in the quotation (relatively strongest range of ESG) that follows at point 3.

In order to move beyond the strongly context-dependent meanings portrayed in the quotation back to theory, the candidate weakens the context-dependency of the meanings being constructed. She does this by explicitly *branching* the quotation ('In this extract, Anel expresses…') to the theoretical construct of 'egalitarian gender scripts' at point 4. To translate between the contextual meanings in the quotation and the abstract meaning in the theory, the candidate then sets about *interpreting* the materials in relation to the theory (point 5). By *interpreting* (a relatively mid-range of ESG), she provides a kind of middle ground where she can contextualise the more abstract meanings associated with theory and generalise the more concrete meanings contained in the quotation, bringing the two into genuine dialogue.

At point 6 the candidate generates a *claim* off the basis of the interpretation. In doing so, the context-dependence of the meaning is weakened in that the candidate is gradually moving beyond specific instances of the materials and is now constructing more generalised understandings of the materials more broadly. This pattern of relatively strengthening the context-dependence through *interpreting* and then weakening it through generalised *claims* about the materials is repeated three times (Points 5–10). This enables the candidate to gradually mediate between the theoretical ideas informing the analysis and the materials before once again *branching* to theory at the end of the paragraph. In doing so, the paragraph of text ends at a relatively abstract range, as the findings branch out to theoretical contexts beyond the study, weakening the context-dependence of the findings being constructed at this point.

It is evident from Figure 8.1 that, although theory is being applied to materials in this example, the candidate does not jump between these two contexts – i.e. the sequence of strategies does not go from Point 1 (*branching*) to Point 3 (*presenting*) to Point 4 (*branching*) to Point 11 (*branching*). Instead, the candidate mediates between the different ranges of context-dependence by utilising a number of strategies that bring the two kinds of knowledge into dialogue, as explained above. This helps to enact a more explicit analysis, as the candidate's understanding informing the analysis is made explicit to the reader. The profile also reveals how considerable work is done through the strategies of *interpreting, claiming* and *branching*. This enables the candidate to:

- draw on theoretical knowledge from beyond the context of the study;

- contextualise abstract concepts into more concrete terms to bring the theory and materials into closer dialogue; and
- gradually construct generalised understandings of the materials that can be extrapolated beyond the boundaries of the context of study.

Analysing the text in terms of context strategies affords a more explicit understanding of how the candidate uses theoretical concepts to understand her materials and to generate implications that can be applied in other contexts. To complement this understanding, the same text is now discussed in terms of complexity strategies to reveal how the candidate concurrently builds more complex understandings of the materials over the course of the text.

3.2. Complexity strategies

The analysis of complexity strategies presented in Table 8.3 is synthesised in this section using a formalism to show how the candidate gradually builds a more complex understanding of her materials each time a strategy is enacted. The logic of the formulism is first explained and is then enacted as a scaffold for the explanation of the analysis.

The degree of complexity (i.e. the amount of meaning) cumulated through a text, from small gradations of meaning to relatively greater amounts of meaning, will depend on the type of complexity strategy used. Although the text has been analysed at the 'sub-subtype' strategy level to reveal greater analytical detail, the formalism synthesises the discussion of complexity using the four subtype strategies in the translation device – i.e. according to the four categories of *exhibiting, elaborating, linking* and *creating*. This helps create a more generalizable perspective of complexity over the course of the text.

To construct the formalism, each short passage of text is represented by a square block and the complexity strategy that establishes a relation between the two parts is represented by a particular kind of line. The strategy of *exhibiting,* the relatively weakest level of ESD, is represented with one line while *creating*, the strategy with the relatively strongest level of ESD, is represented with four lines. The assignment of lines associated with each complexity strategy is summarised in Figure 8.2 below.

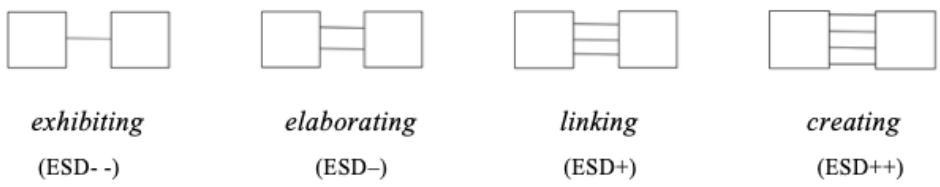


Figure 8.2. Representation of complexity strategies

As a candidate sequences complexity strategies together in writing, meanings are carried forward. This enables progressively more complex epistemic meanings to be constructed over time. Figure 8.3 illustrates this process by using an outer rectangle to show how preceding meanings are condensed as the text unfolds.

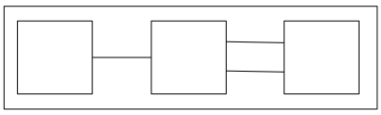
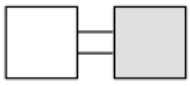


Figure 8.3. Representation of condensed meanings carried forward

When terms with technical meaning (such as theoretical concepts) are introduced in a text through *linking*, the unit of meaning represented in the diagram is shaded to reflect the more complex knowledge being added, as shown in Figure 8.4.



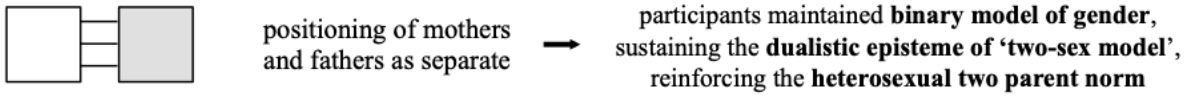
Anel transposes the heterosexual family form onto the homosexual family, thus reiterating the *gendered* two-parent norm.

Figure 8.4. Representation of technical meanings

The analysis of complexity of meaning presented in Table 8.3 is now explained. Each step of the analysis is synthesised using the formalism. The first six lines of analysis are accompanied by summaries of the text (such as that provided in Figure 8.4 above) to emphasise how the formalism represents an accrual of meaning. These individual diagrams, presented for each line of analysis, are then combined at the end of the discussion to show how complexity has accumulated over the duration of the text.

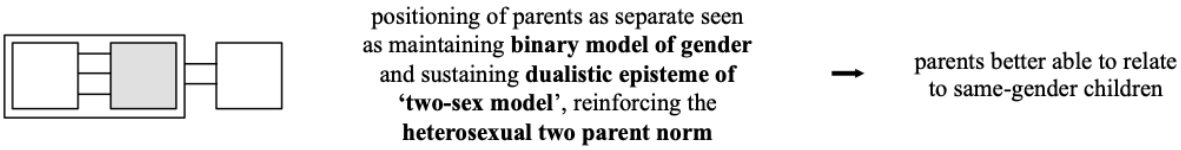
The candidate starts the text by introducing dense theoretical meanings such as ‘binary model of gender’, the ‘dualistic episteme of the two-sex-model’ and ‘heterosexual two-parent norm’

into the findings she is constructing (row 1). She does this by *compacting* the theoretical (and therefore technical) meanings into her more common-sense understanding of her participants' actions. This enables the candidate to 'set the scene' in terms of the complex theoretical constructs that will be used to understand instances of materials. The effect this strategy has on building complexity is represented as follows:



Here, the candidate's simple understanding (clear box) is connected to technical, theoretical meaning (shaded box and bolded text) through a three-lined *linking* connector (*compacting* is a sub-subtype of *linking*, see Table 8.2).

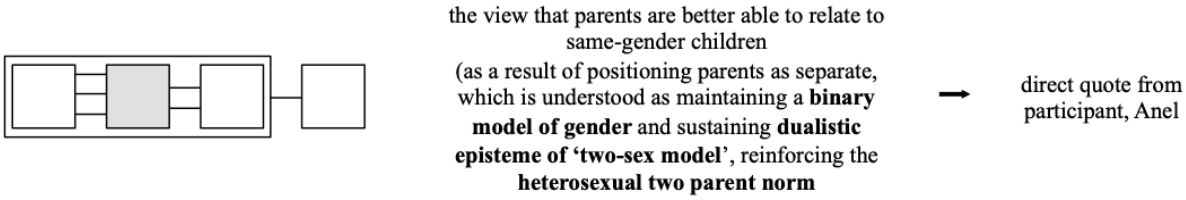
After setting up the theoretical constructs, the candidate then sets about simplifying the meanings that have been carried forward by *distinguishing* simple meanings such as 'parents better able to relate to same-gender children' (row 2). In doing so she progressively weakens the ESD of the meanings as she unpacks these terms into more common-sense understandings, enabling her to flag to the reader how the concepts might manifest in the materials on hand. This strategy is represented as follows:



As can be seen in the diagram and description above, although the candidate has enacted a weaker ESD strategy – illustrated by the two-lined *elaborating* connector (remember, *distinguishing* is a sub-subtype of *elaborating*) – she is still building meaning at this point. This is evident in how the preceding meanings constructed by *compacting* strategies are carried forward as each new complexity strategy is sequenced in the text.

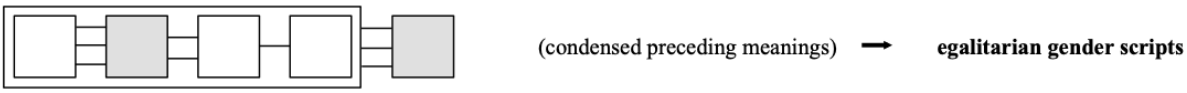
The candidate then connects the meanings she has constructed thus far to a quotation from her materials through *portraying* (row 3). This is the relatively weakest ESD complexity strategy, as it draws on materials in their original, unelaborated form (and is thus represented in the

diagram below with only one line connector). By first simplifying the theoretical terms (through *distinguishing*), their meanings can be more easily translated into the common-sense meanings produced in the quotation at this point.



Importantly, the diagram and accompanying text shows how it is not just the meanings enacted by *distinguishing* that the candidate connects to the quotation. Rather, all preceding meanings are carried forward. It is thus the combined or condensed meanings of both *compacting* and *distinguishing* strategies that have previously been constructed in the text which are now connected (through *portraying*) to the new meanings enacted in the quotation.

In order to build more complex theoretical understandings of the quotation from the materials, the candidate once again incorporates theoretical meanings. She does this by explicitly connecting the quotation ('In this extract, Anel expresses…') to the theoretical concept of 'egalitarian gender scripts' by *compacting* the technical, theoretical meanings into the understanding being constructed at this point (row 4). Given the dense, technical meaning contained in the concept of 'egalitarian gender scripts', the complexity is increased significantly at this point. The added complexity is illustrated in the diagram below through both the type of connection made (i.e. the three-lined *linking* connector) as well as by shading the new unit of meaning to indicate technicality of meaning.

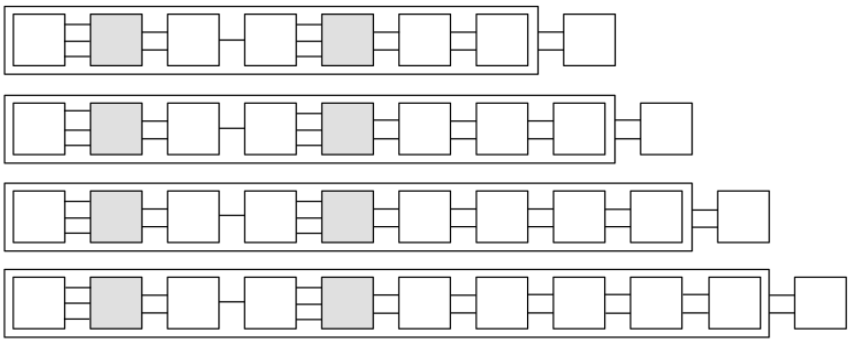


Once more technical meanings have been incorporated into the knowledge being constructed, the candidate then sets about *distinguishing* between simpler meanings in order to contextualise and simplify the complex theoretical meanings (row 5). In doing so, the candidate is able to unpack and explain the condensed meanings which have been established so far into simpler terms (i.e. she weakens the ESD), enabling her to demonstrate to the reader how they manifest

in the more simple meanings contained in the materials. This process of weakening the complexity is illustrated as follows:

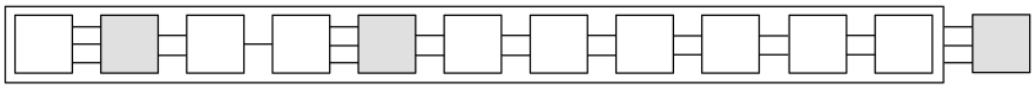
After *distinguishing* more simple meanings, the candidate then *consolidates* these meanings once again to form a more complex understanding of the materials (row 6). While the knowledge constructed at this point is 'empirical' (insofar as it is not, at this point in time, drawing on academic meanings), it has relatively strong complexity because it draws on the preceding meanings constructed prior to this point in the text. This process of *consolidating* is represented as follows:

The pattern of *distinguishing* between more simple meanings and *consolidating* meanings into a new understanding is repeated two times (row 7–10) as the candidate gradually mediates between the complex theoretical ideas informing the analysis and the simple meanings contained in the materials. The sequencing of these strategies can be illustrated as follows:



The above diagram shows that despite only relatively weaker complexity (seen in *distinguishing* and *consolidating*, both of which are represented by their subtype *elaborating's* two-lined connector) being added to the findings being constructed, the complexity of the texts is increasingly incrementally each time a strategy is used.

At the end of the text the candidate incorporates dense, theoretical meanings into the findings being constructed. She does this by arguing that the gender roles constructed by participants are set up and justified according to biological difference, which performs a 'naturalising discursive function'. In doing so, the candidate is *compacting* the technical meaning imbued in these theoretical concepts into the understanding she has generated of her materials by this point in the text. This strategy increases the overall complexity of the text by connecting all the preceding meanings with further complex, technical theoretical meanings, as shown in the diagram below:



In effect, the preceding meanings are subsumed within, and encapsulated by, a theorised understanding constructed by the end of the paragraph of text.

To gain an understanding of the overall accumulation of complexity across the text, the individual diagrams can be combined to form a formalism for the whole paragraph. This is represented in Figure 8.5 below.

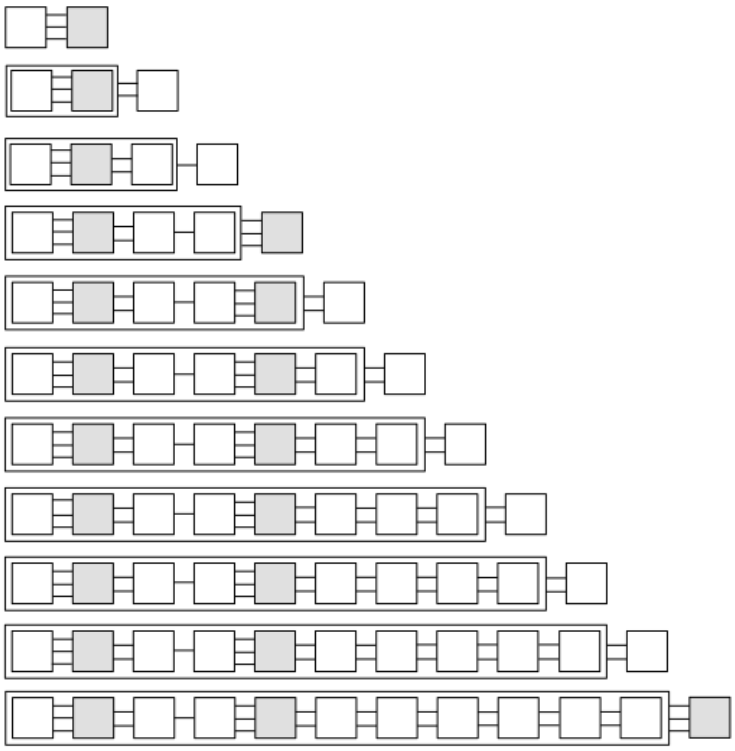


Figure 8.5. Accumulated complexity in subsumptive weaving

As can be seen in the above figure, each time the candidate enacts a complexity strategy she is adding complexity to the meanings being constructed. This complexity of meaning accumulates at different rates throughout the text as she draws on strategies of different strengths of ESD.

The above analysis has thus provided an illustrative example of how a 'subsumptive weaving' configuration can be enacted in writing. Using the conceptual tools, the way in which the candidate sequences and weaves together different context strategies and complexity strategies in order to build, attach and subsume complex epistemic meanings over short lengths of text is able to be revealed. This configuration enables the candidate to draw on theoretical knowledge from outside her context of study in order to construct abstract and complex theorised understandings of her empirical materials. As shown in the illustrative example, the candidate has essentially equated the participant's actions (described in her own narrative account which the candidate quotes directly in the text), with a 'binary model of gender'. This theoretical construct is set up at the beginning of the paragraph and is then unpacked by the candidate in simpler terms to reveal its implications for interpreting the materials. She then returns to the construct at the end of the text to subsume all the preceding meaning into this theoretical idea. In doing so, the candidate is able to generate a complex theoretical interpretation of the concrete instances of her materials, enabling her to construct original, generalizable findings about her object of study that are no longer bound to her specific context.

Furthermore, by enacting context and complexity strategies between theoretical meanings and concrete materials, such as *interpreting/distinguishing* and *claiming/consolidating*, the candidate is able to weave these two different kinds of knowledge together to create semantic flow. The strategies also enable the candidate to demonstrate her understanding of the theory, by providing a way for her to 'unpack' the more dense terms into simpler meanings through *interpreting/distinguishing* strategies. Similarly, the candidate is also able to demonstrate her understanding of the implications of these ideas for the materials – typically achieved by a 're-packing' of meanings into new, more complex stances – through *claiming/consolidating* strategies.

'Subsumptive weaving' configurations were more commonly found in knowledge code components in the sample, which typically place stronger emphasis on building complex epistemic meanings than knower codes. If enacted in knower codes they tended to *branch* to

other significant knowers' ideas (i.e. an emphasis on *social relations*) rather than specialist, technical knowledge imbued in theoretical frameworks or methodological approaches typical of knowledge codes (which emphasise *epistemic relations*). In terms of pedagogy, this shows how configurations need to be considered in relation to the purpose of the study on hand – i.e. the nuanced way in which the configurations are enacted will be informed by the goals of the specific study and the kind of knowledge they are constructing. In this sense, *branching* to other significant knowers' ideas is no better or worse than *branching* to theoretical knowledge – it entirely depends on the needs of the study.

4. CONFIGURATION 2: COMPARATIVE WEAVING

The second configuration revealed through the tools is 'comparative weaving'. This configuration enables candidates to link their own understandings of their materials with academic knowledge from other contexts. In this sense, the candidate builds more complex understandings by associating the meanings created within the context of the study to outside, academic meanings from the field. Using the same configuration of strategies, these associations were identified as taking two main forms: they can either be used to compare different meanings in order to substantiate the findings being constructed, or they can be used to contrast different meanings in order to refute existing knowledge. An illustrative example of each form will now be analysed to show the utility of the tools for understanding this configuration.

4.1. Comparing to substantiate

The first kind of 'comparative weaving' to be considered uses a range of strategies to compare existing academic meanings with the empirical meanings being constructed within the context of study. This enables candidates to substantiate their understandings with existing knowledge. This configuration is exemplified in an illustrative analysis of a knower code component from history (Dissertation 1). The historical study considers the development of a chemical and biological warfare programme in South Africa during the 1980s and early 1990s. The candidate draws on a number of sources including archival materials, interview transcripts and court transcripts from the Truth and Reconciliation Commission hearings.

The analysis of the example of text is presented in Table 8.4 below and is first explained in terms of context-dependence and then in terms of complexity.

Table 8.4. Analysis of comparative weaving, example 1

	EXTRACT	**ESG CODING**	**ESD CODING**
1	The structural changes in the state machinery took place at a time of rising political pressures inside South Africa and in the region.	claiming	consolidating
2	The fall of the Portuguese government in April 1974 and the consequent rise to power of revolutionary governments in Angola and Mozambique, combined with the struggle for liberation in Rhodesia, "traumatised the apartheid regime in Pretoria".[97]	summarising	arranging
3	In explaining the context in which the nuclear programme was born, Fig argues that the regional changes: > precipitated a renewed rise of social struggle, typified by the events of June 1976 in Soweto, the emergence of the Black Consciousness Movement and a stronger ANC underground [the] state responded with intensified domestic repression and external aggression. Not only had the front line moved closer, it had taken shape in the dusty streets of South Africa's townships. The decision to build nuclear weapons [taken in 1974] arose in this atmosphere, during the paranoia about external attack and internal subversion, and as a part of a growing move to create a 'total strategy' against the 'total onslaught' of apartheid's enemies.[98]	bridging	associating
4	There was an increased level of internal resistance to apartheid following the massacre of school children in Soweto in 1976, the murder of Steve Biko in 1977, and increased levels of conflict in Angola and northern Namibia. There was consequently, a need perceived by the SADF leadership to research and develop crowd control agents. The search for chemical agents which could effectively be used against crowds coincided with the Soweto massacre in 1976.	claiming	consolidating
5	Both former South African Police Forensics chief, General Lothar Neethling, and General Constand Viljoen, have recalled the military's interest in finding agents that would calm a crowd. As Neethling stated to the Truth Commission:	summarising	arranging
6	> When the riots started in 1976, the South African Police were caught unawares. They had nothing apart from guns, shotguns, and sharp point ammunition. Nobody wanted to use that and that's why there was a surge for various techniques to be applied I went overseas three times to Germany, England, Israel, America to find the best techniques available.[99]	presenting	portraying
7	Viljoen concurred with Neethling, saying that the purpose of the chemical warfare programme was, on the one hand, to provide SADF troops with protection against the use of chemical weapons, and on the other hand to seek other forms of crowd control which would give the police an alternative to live ammunition.[100]	summarising	arranging

4.1.1. Context strategies

The analysis of context-dependence of meanings is illustrated in an ESG profile in Figure 8.6. The profile reveals how the candidate engages a variety of strategies in order to connect the candidate's understanding of materials with the findings of existing research.

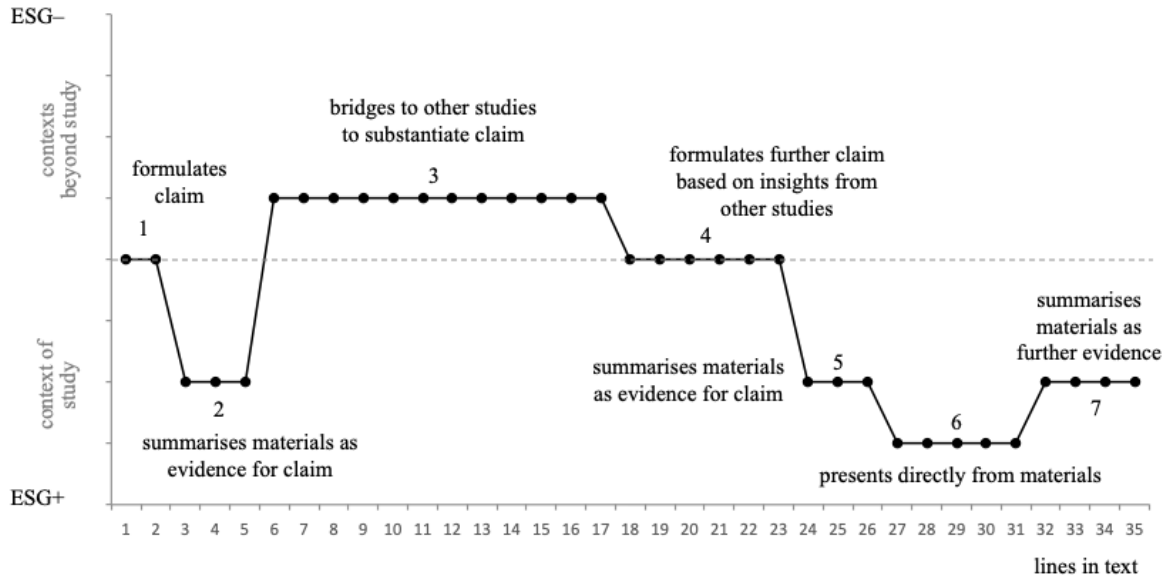


Figure 8.6. Deconstructed ESG profile of comparative weaving, example 1

The candidate starts the text with a general *claim* about the events under investigation (in this instance, the structural changes in the state machinery). The knowledge constructed here is therefore relatively general, as the candidate is not considering specific instances of materials, but she has yet to move beyond the context of the study. In order to substantiate the claim, the candidate strengthens the context-dependence by moving to *summarising* (point 2) in order to provide evidence from her sources. She then weakens the context-dependence by drawing on findings from another study (i.e. she moves beyond her study to contexts in the broader field) to provide further substantiation for the argument she is constructing (point 3).

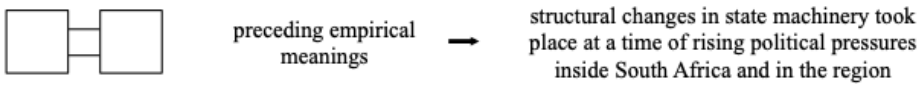
Leveraging off this outside knowledge, the candidate then uses the context strategy of *claiming* at point 4 to formulate a further argument about the object of study. This acts to bring the outside knowledge (provided in Fig's (1998) study) into closer dialogue with the knowledge gained from materials (sources) used in the study, which the candidate then presents through *summarising* at point 5. Using the strategy of *summarising*, the candidate further strengthens

the context-dependence of the knowledge, as she draws on her materials to provide evidence for her claim. The context-dependence of meaning is strengthened further still when, at point 6, the candidate quotes directly from the materials through *presenting*. The meanings enacted here are thus contextually bound to the specific source. The candidate then marginally weakens the context-dependence at point 7, by once again returning to a *summarising* description of the materials, which is used as further evidence for the argument being constructed.

By analysing the strategies for context-dependence in this way, the manner in which the candidate constructs an argument by drawing on findings from other studies and using her own materials as evidence, is made more explicit. It thus reveals how knower codes, like knowledge codes, construct findings by weaving together different kinds of epistemic meanings. It also shows how candidates can use particular strategies to compare their own findings with that of outside knowledge, enabling them to substantiate their understandings.

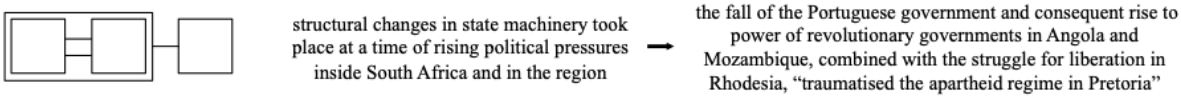
4.1.2. Complexity strategies

The candidate starts the text with a claim by *consolidating* a selection of empirical meanings relating to the materials, such as structural changes, state machinery and political pressure into a more complex stance (row 1).



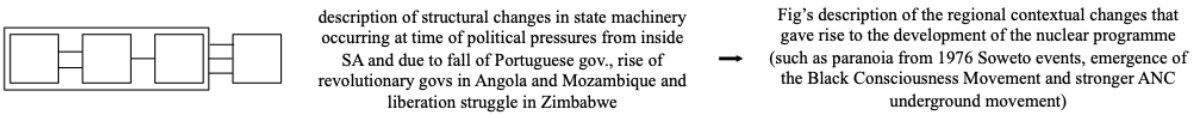
At this point in the text the meanings are relatively complex (represented with a two-lined *elaborating* connector) as the candidate is constructing an understanding that is based on a selection of weaker empirical meanings being brought together in a particular way.

In row 2 the candidate substantiates the opening claim by providing empirical evidence. She does this by *arranging* select simple empirical meanings from the materials together in a particular sequence.



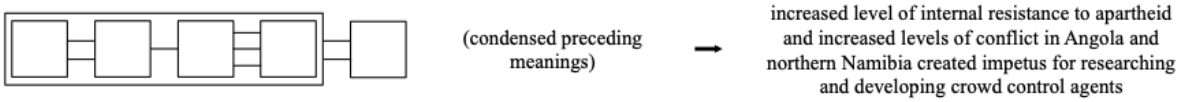
Here, the candidate has added a small amount of complexity to the findings being constructed at this point by adding more descriptive detail comprising relatively simple empirical meanings (shown with a one-lined *exhibiting* connector).

Following the adding of simple meanings, the candidate then builds knowledge at a more complex range by enacting the complexity strategy of *associating* (row 3) This enables her to link more complex meanings from the wider field (i.e. from Fig's (1998) study) to her own findings, adding considerable complexity to the text.



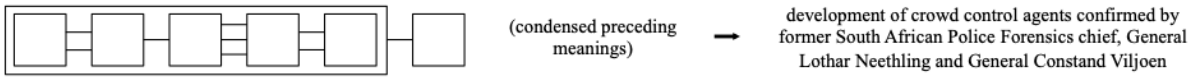
The increased complexity is illustrated here through the three-lined *linking* connector to show how all the meanings that have been established up until this point are now imbued with the more complex academic meanings from Fig's (1998) existing study.

Leveraging off the more complex knowledge that has been added from Fig's (1998) study, the candidate then generates a further understanding in row 4. To do this, she enacts the strategy of *consolidating* to bring together different meanings from both her sources and that of Fig's (1998) study in order to construct a more complex understanding of her materials.



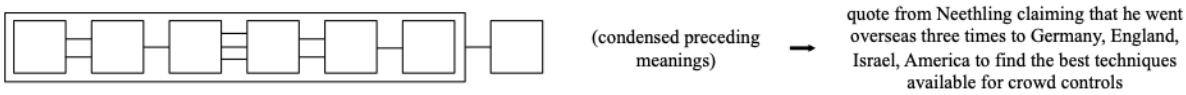
The two-lined *elaborating* connector shows how although the candidate is adding relatively weaker complexity at this point (in comparison to *associating* in row 3), she is still building complexity in the text as she constructs a consolidated understanding of the materials.

After *consolidating* meanings together in row 4, the candidate then simplifies the knowledge by using the complexity strategy of *arranging* (row 5). This enables her to incorporate the more simple meanings inherent in the materials into the knowledge she is constructing:

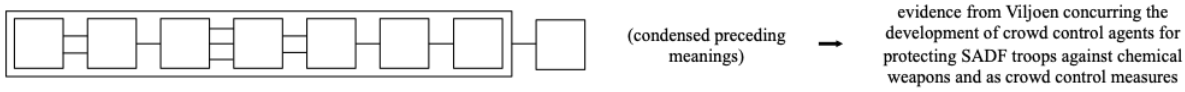


In doing so, the candidate is able to add simple meanings as evidence for the consolidated understanding constructed in row 4. Therefore, while the meanings being added here may be simple, they are purposely used to create a stronger claim (i.e. they do considerable work in terms of constructing findings).

The knowledge is further simplified in row 6 when the candidate *portrays* the original, simple meanings in the materials by including a direct quotation from an informant.



Again, although the meanings being added here are simple, the inclusion of the quotation substantiates the understanding she has created thus far. This enables the candidate to construct a more reliable account of the events. She then returns to use the strategy of *arranging* (row 7), which enables her to include additional simple meanings from the materials in order to construct a chronological narrative which provides further evidence for the claims that have gone before.



The complexity relationships in rows 5 to 7 are all illustrated with a single-line *exhibiting* connector (as *portraying* and *arranging* are both sub-subtypes of *exhibiting*). This shows that despite the candidate using relatively weak categories of ESD here, she is still building complexity incrementally by drawing on the simple meanings contained within her materials.

When looking at the text as a whole, the following formalism is revealed (Figure 8.7).

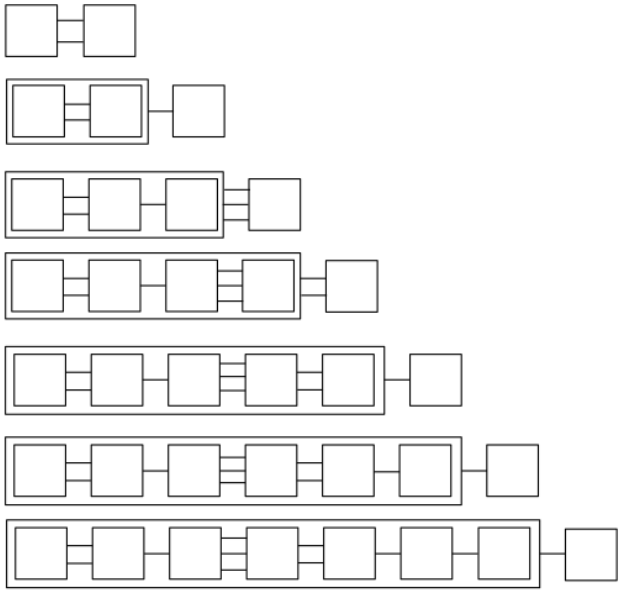


Figure 8.7. Accumulated complexity in comparative weaving, example 1

The formalism shows that complexity has been added over the course of the text, as the candidate has constructed and condensed epistemic meanings through a range of complexity strategies. Given that the candidate only draws on empirical knowledge from outside the context of study, the overall complexity is relatively weaker than if she had incorporated technical meanings from a theory or methodological approach. That is not to say, however, that more complex theoretical knowledge is necessary or even appropriate here. The degree of complexity (and hence the kind of strategy enacted) depends on the purpose of the study. This is important for pedagogy, as stronger complexity is not always of greater value than simple meanings in doctoral writing. It entirely depends on the specific goals of the individual study.

Using the conceptual tools to analyse the candidate's choice of context and complexity strategies affords an understanding of how existing empirical meanings can be incorporated into findings in order to support the candidate's understandings. In doing so, she is able to substantiate her own findings. In order to move between the more complex meanings found in existing studies and the concrete, simple empirical meanings from the context of study, the candidate enacts *interpreting/distinguishing* and *claiming/consolidating* strategies to unpack and simplify meanings in her discussion as well as to 're-pack' and consolidate her understanding into a more complex, generalised stance. She is also able to create closer links between what is known (i.e. existing knowledge) and the specific instances of her materials, which she includes through the strategies of *arranging/summarising* and

portraying/presenting. By stepping through this range of strategies the candidate is, in effect, able to create semantic flow in her writing.

4.2. Contrasting to refute

The second kind of 'comparative weaving' enables candidates to link their own understandings of their materials with academic knowledge from other contexts in order to refute existing knowledge. This configuration is exemplified in a knowledge code component from sociology (Dissertation 16). This quantitative study draws on survey and population census data to test the social polarisation hypothesis and the role migrants play in this process in the Johannesburg region of South Africa. Over the course of the component the candidate builds an argument to disprove the theory of social polarisation by moving regularly between summaries of her materials (tabulated numerical statistics and graphs) to explanations of the summaries, and then links this discussion out to other empirical studies as well as to proponents of social polarisation theory.

The coded illustrative example is presented in Table 8.5 below. It is first explained in terms of context-dependence, using a semantic gravity profile to illustrate the analysis. It is then explained in terms of shifts in complexity, which is illustrated using a formalism to show how meanings are carried forward as the text unfolds.

Table 8.5. Analysis of comparative weaving, example 2

	EXTRACT	**ESG CODING**	**ESD CODING**
1	By 2001, migrants constituted a bigger percentage of low-skill, low-wage workers.	claiming	consolidating
2	However, again, arguably polarisation theorists would have presumed the degree to which this occurred to be much greater than it in fact was.	branching	compacting
3	Natives to the Johannesburg region were underrepresented in unskilled work, with 15 per cent of native employment consisting of elementary occupations, versus the slightly lower than 1980 level of 20 per cent of the entire working population (Table 4.4).	interpreting	distinguishing
4	Approximately 27 per cent of internal migrants held elementary/unskilled jobs (Table 4.4). Internal migrants formed 58 per cent of all unskilled workers, but constituted only 44 per cent of the employed workforce (Table 4.5). Foreign migrants were slightly under-represented amongst unskilled workers, with only 16 per cent of their work coming from unskilled jobs versus the 20 per cent of the whole population (Table 4.4). They formed 7 per cent of all workers while constituting 9 per cent of the employed workforce (Table 4.5).	summarising	arranging
5	Thus, all migrants together held 65 per cent of unskilled work but only made up 53 per cent of the population (Table 4.5).	interpreting	distinguishing
6	Therefore, essentially, there were 12 per cent more migrants working in low-wage, low-skill jobs than one would have expected from the population numbers alone.	claiming	consolidating
7	This is not a particularly large disparity, and arguably not of the magnitude many supporters of the polarisation hypothesis would anticipate.	branching	compacting

4.2.1. Context strategies

The choice and sequence of context strategies employed over the course of the text is illustrated in a semantic profile in Figure 8.8 below. Drawing on the analysis of ESG presented in Table 8.5 and the accompanying ESG profile, the way in which the candidate shifts the strength of ESG to construct findings which foreground the empirical nature of her object of study is now discussed.

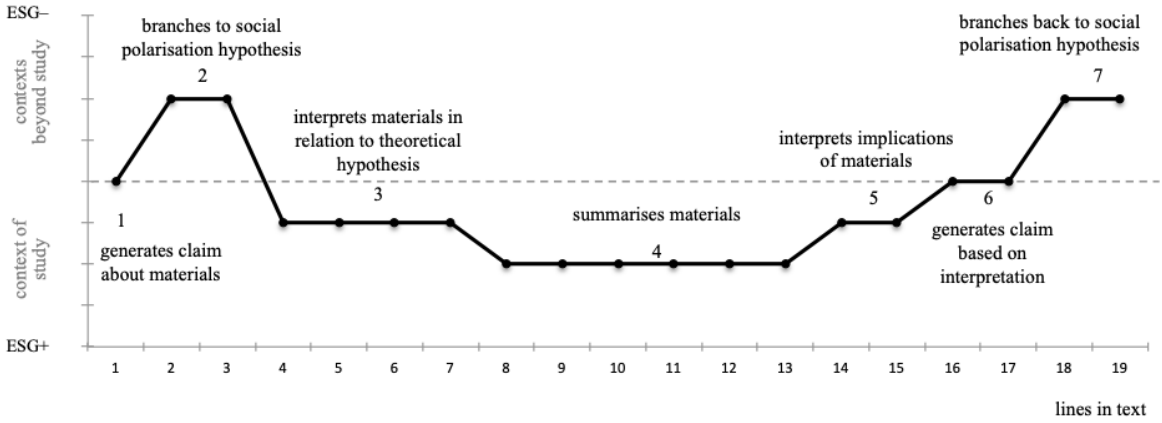


Figure 8.8. Deconstructed ESG profile of comparative weaving, example 2

The candidate begins the paragraph of text by producing a more general *claim* about the materials under consideration (point 1). At this point she is still working within the context of study, but is enacting a more generalizable understanding about the materials – i.e. the knowledge constructed here has slightly weaker context-dependence than if she were working directly with the materials. The candidate then weakens the context-dependence by *branching* the claim to more abstract, theoretical knowledge from beyond the context of the study in order to bring the context-dependent contextual knowledge of her materials into dialogue with social polarisation theory (point 2).

Once the candidate has introduced the perspective afforded by theory, she then uses the context strategy of *interpreting* to bring that perspective into closer dialogue with the materials on hand (point 3) – i.e. she strengthens the context-dependence of the knowledge. In doing so, she is able to explain and unpack the first claim (point 1) to show how the empirical nature of the materials contradicts the theoretical hypothesis (provided at point 2). To provide evidence for her argument, the candidate provides a *summarising* description of her materials (point 4). This strengthens the context-dependence of the knowledge being constructed even further as the candidate contrasts the theoretical hypothesis with concrete, particular instances of her materials.

Working from the summarised empirical evidence, the candidate then starts to weaken the context-dependence of the knowledge being expressed in order to generalise the findings in relation to theory. She does this in three steps. First, using the context strategy of *interpreting*, she moves beyond the concrete description of materials to generate an understanding of the

implications of the materials (point 5). The context-dependence is further weakened through *claiming* (point 6) as she starts to construct a more generalised understanding of the materials. By doing so, the candidate uses the strategies of *interpreting* and *claiming* to gradually weaken the context-dependence of the knowledge being constructed in order to scaffold between the concrete materials and theoretical hypothesis. This enables her to return to the theoretical understanding offered by social polarisation theory (point 7) by *branching* the claim to the theory. In doing so, the candidate is able to construct an understanding of the materials which can now resonate out to, and have implications for, theoretical knowledge beyond the context of the study.

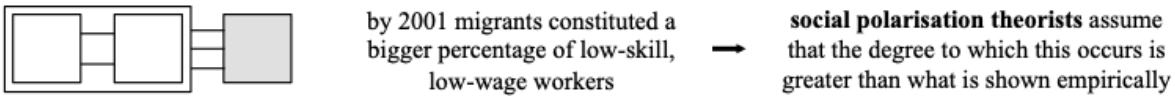
The analysis and accompanying semantic profile (Figure 8.6) therefore reveal how the candidate is able to bring the abstract theoretical hypothesis (which she is attempting to refute) and the concrete materials (which she is using as the basis of her argument) into dialogue – the purpose of the study. The candidate does not, however, only work with these two kinds of knowledge – a situation that would result if she only enacted strategies at point 2 (*branching*), 4 (*summarising*) and 7 (*branching*). Likewise, she does not just provide a series of claims in relation to theory – i.e. she does not jump from point 1 (*claiming*) to 2 (*branching*) to 6 (*claiming*) to 7 (*branching*) with no mediation as to how the materials contradict the hypothesis she is testing. Instead, the candidate works with a number of context strategies to set up the claim, construct an argument for why it refutes the theory, provide evidence for the argument, and then return to the theory at the end of the paragraph. By doing so, the candidate is able to explicitly show the reader how she has constructed her argument, as well as the empirical evidence that has been used as the basis of the findings she has constructed. The conceptual tools for analysing context strategies enables a way to understand, in more explicit terms, how this is achieved in writing. To complement this understanding, the same text is now discussed in terms of complexity strategies.

4.2.2. Complexity strategies

The candidate starts the text with a claim by *consolidating* a selection of empirical meanings relating to the materials, such as numerical figures relating to migrants, low-skill and low-wage employment by the year 2001 (row 1). This process of *consolidating* is represented as follows:

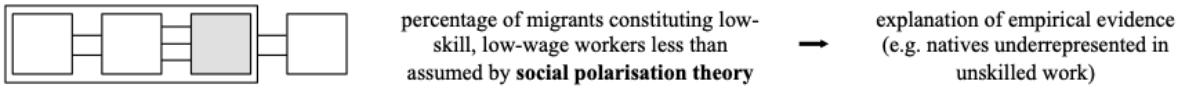
The findings being constructed at this point are relatively complex, given that multiple simple meanings are being combined, represented by the two-lined *elaborating* connector (remember that *consolidating* is a sub-subtype of *elaborating*).

Once the claim has been made, the candidate then connects this claim up to social polarisation theory (row 2). She does this by *compacting* meanings from the complex theory into the empirically-based findings she has constructed by this point. In doing so, she imbues additional academic meanings into her findings, thus increasing the complexity:

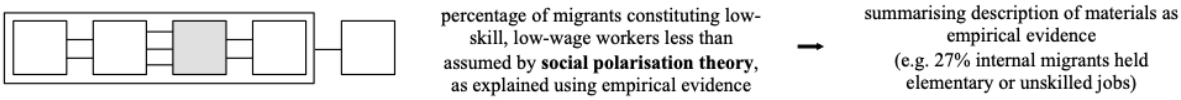


The increased complexity being added at this point is shown by the three-lined *linking* connector (stronger ESD) as well as using shading to reflect that the theoretical meanings being added at this point additionally hold technical meaning.

Following the connection to complex theory, the candidate uses the strategy of *distinguishing* to unpack and explain the complex meanings she has constructed by this point (row 3).

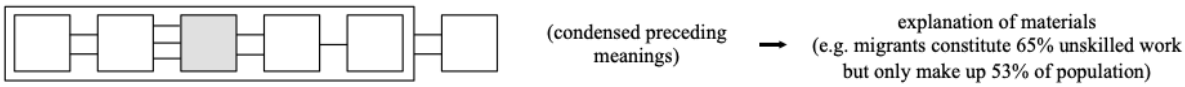


This strategy simplifies the dense theoretical meanings, bringing them into closer dialogue with the simple meanings of the materials, which the candidate then presents through the strategy of *arranging* (row 4). The meanings being constructed at this point have weaker ESD, given that they have not been elaborated in any way other than being organised into a workable format (statistical figures) by the candidate.



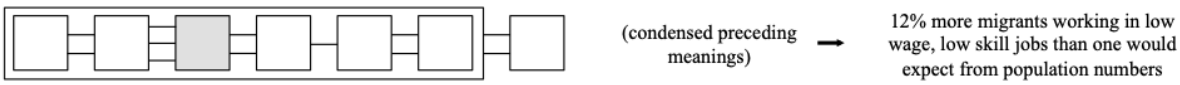
The single-lined *exhibiting* connector represents the simpler knowledge that is being constructed at this point.

Following the provision of empirical evidence, the candidate then starts to construct findings that connect back up to theory in order to make an argument that the materials disprove the theoretical hypothesis under investigation. She does this by using incrementally stronger ESD strategies. First, the candidate starts to build more complex meanings by *distinguishing* between the relatively simple meanings provided in the materials (e.g. that migrants made up 65 per cent of unskilled work and 53 per cent of the total population).



In doing so, the candidate elaborates on the simple meanings enacted in the materials as she starts to build an understanding of them.

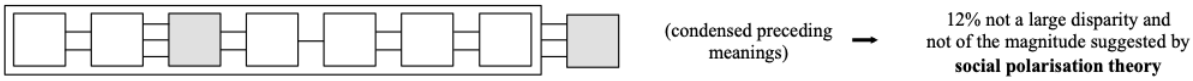
This understanding is extended, and the complexity of the knowledge increased, when the candidate formulates a claim based on this understanding. She does this through the strategy of *consolidating*, which brings together smaller, simpler meanings into a more complex claim.



Here, the candidate is building knowledge at a more complex range than before (remembering however, that *consolidating* and *distinguishing* are both sub-subtypes of *elaborating*, which is why both strategies are represented with a two-lined connector).

At the end of the paragraph of text the candidate moves back to the theoretical understanding offered by social polarisation theory (row 7). She does this by enacting the strategy *compacting*,

which condenses complex theoretical meanings into the findings she has constructed by this point in the text.



The increased complexity is shown here by both the three-lined *linking* connector as well as shading the theoretical meanings to indicate their technicality. By returning to the strategy of *compacting* at the end of the paragraph, the candidate is able to condense complex theoretical meanings into her understanding of her materials.

When combining the above diagrams in order to gain a perspective of the complexity at work in the text as a whole, the formalism in Figure 8.9 is revealed.

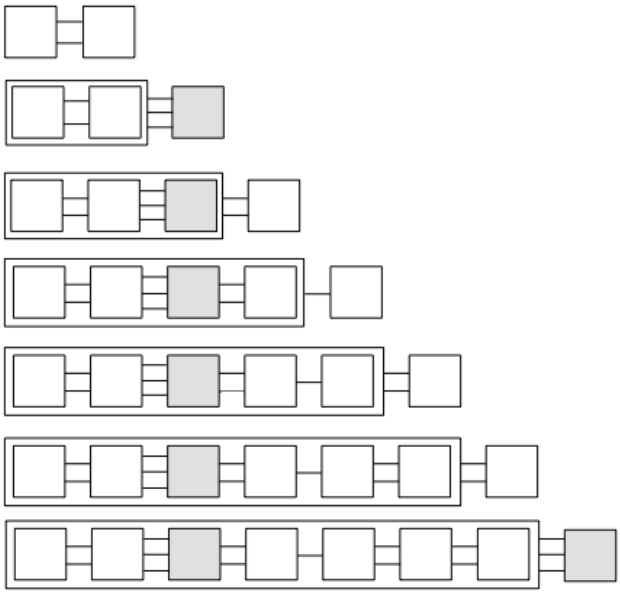


Figure 8.9. Accumulated complexity in comparative weaving, example 2

The formalism in Figure 8.9, when viewed in relation to the analyses set out in Table 8.5, illustrates how the candidate builds a lot of complex epistemic meanings in a relatively short space of time as each strategy is enacted. It also shows how the degree of complexity is increased when theoretical meanings are incorporated into the discussion. In order to move between the complex and abstract theoretical meanings and the more concrete, simple empirical meanings, the candidate enacts *interpreting/distinguishing* and

claiming/consolidating strategies to unpack and simplify meanings in her discussion as well as to 're-pack' and consolidate her understanding into a more complex, generalised stance. By stepping through this range of strategies the candidate is, in effect, able to create semantic flow in her writing. It also enables her to present her ideas and understandings in a more explicit manner.

The two illustrative analyses provided above demonstrate the utility of the tools for revealing the configuration of 'comparative weaving'. The two examples show how the candidates' choice of context and complexity strategies affords an understanding of how theoretical meanings can be incorporated into findings in order to disprove existing knowledge or how existing empirical knowledge can be drawn on to substantiate the understandings being created in the text. In this sense, it differs from 'subsumptive weaving' that subsumes preceding findings into a theorised account. Here, rather, candidates draw on theory/methodological knowledge or existing empirical findings in order to create a comparison between what is known and what new understanding the candidate is contributing. This enables them to demonstrate the originality and legitimacy of the findings they have constructed.

Comparative weaving was found across dissertations in the sample. The nuanced difference between codes is that knowledge codes tend to use this configuration to refute or challenge theoretical or methodological knowledge (through the strategies of *branching/compacting*) or existing empirical findings of other studies through *bridging/associating*. Knower codes, on the other hand, tended to use *branching/compacting* strategies in relation to other significant knowers' ideas. They too, enact *bridging/associating* strategies to create a contrast to existing empirical findings. The choice of how to use the strategy therefore depends on the purpose of the research and the goal the candidate is trying to achieve.

5. CONFIGURATION 3: CONTEXTUAL WEAVING

The third configuration revealed through the tools is 'contextual weaving'. This configuration enacts a limited range of stronger ESG context strategies and weaker ESD complexity strategies to create a narrative description of materials. It is a common strategy enacted in history dissertations and other knower code components that often construct what linguists refer to as 'narrative-chronological structuring' (Starfield & Ravelli, 2006, p. 227). Candidates

therefore use select strategies to construct findings by selecting and arranging key sources, in order to create a narrative account of the materials at hand.

'Contextual weaving' is exemplified in an analysis of a knower code component from Dissertation 1. This dissertation considers the factors leading to the development of a chemical and biological warfare programme during the 1980s and 1990s in South Africa. The analysis of the illustrative example is presented in Table 8.6 below. It is first explained in terms of context-dependence, following which shifts in complexity are explained.

Table 8.6. Analysis of contextual weaving example

	EXTRACT	**ESG CODING**	**ESD CODING**
	PARAGRAPH 1		
1	In 1986 medical doctor, Dr Brian Davey was conscripted to the Defence Force. He joined 7 Medical Battalion under Basson's command. Soon afterwards he was instructed by Basson to develop chemical defence procedures to be followed in the event of a chemical attack. He was also instructed to design training courses for medical staff and soldiers. Before Davey set these up in 1988 (the research and development process having taken two years), the Defence Force had no detailed procedures or doctrines for CBW defence.[212]	summarising	arranging
	PARAGRAPH 2		
2	During the process of investigating these defensive strategies, Davey realised the protective suits designed for use in the cooler northern hemisphere were inappropriate for use in African conditions. Until 1988 he had conducted his research work on the ergonomic problems of protective clothing at the CSIR. At 7 Medical Battalion he realised that he needed more extensive facilities, where multidisciplinary physiological testing could be conducted. He discussed the matter with Basson who agreed that upgraded facilities were necessary. He told Davey that he doubted if the SADF would establish such a facility itself, but would be prepared to contract to a financially independent company. He put Davey in touch with his finance company, WPW, represented by accountant Tjaard Viljoen.	summarising	arranging

5.1. Context strategies

The two paragraphs of text comprising the example both enact the context strategy of *summarising*. This means that across the text, only relatively stronger context-dependent meanings are being constructed. This is evident in the epistemic-semantic gravity profile in Figure 8.10.

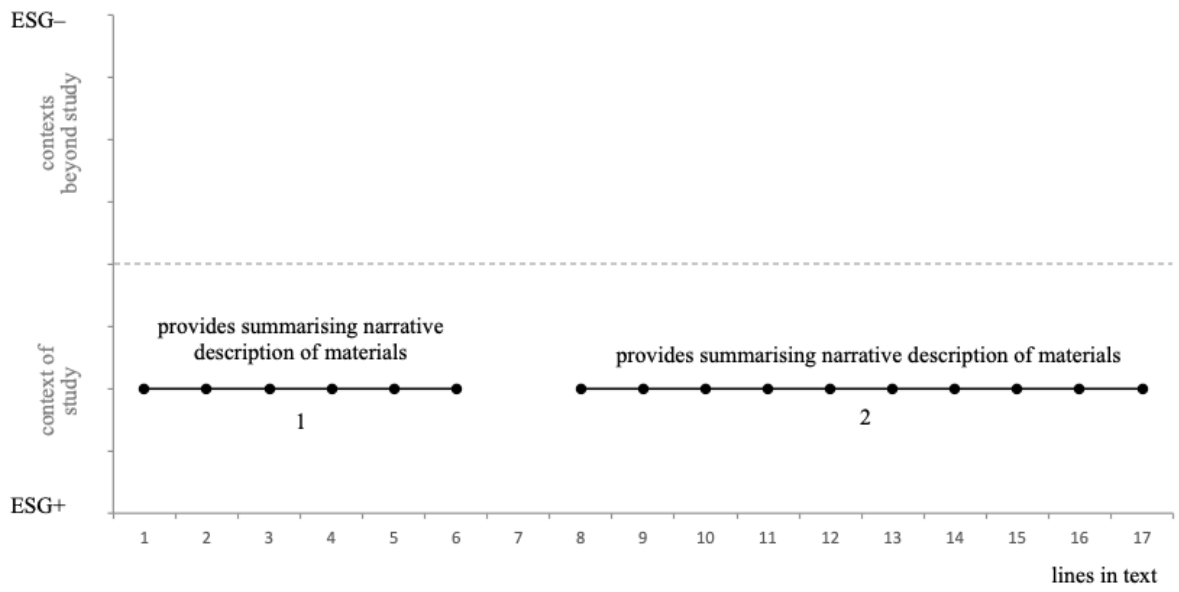


Figure 8.10. Deconstructed ESG profile of contextual weaving example

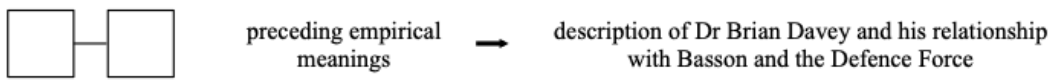
In this example, the candidate provides a summarising description of events that took place in the 1980s to explain the role of a 'Dr Brian Davey' in the establishment of a chemical warfare operation in the South African Defence Force. The candidate does this by *summarising* select sources. She thus constructs meanings that are strongly context-dependent on the materials at hand as she builds a comprehensive chronological narrative account of the events of the time. The candidate uses this context strategy at length throughout the *constructing findings* component. Although it may appear that less work is being done in terms of ESG (i.e. in the context-dependence of the epistemic meanings being constructed) than in other examples, the strategy of *summarising* is being used for a specific purpose here. This context strategy enables the candidate to weave together select sources in a novel way, in order to provide a historically accurate portrayal of the events in question – in effect, the 'new' or 'original' aspect of the findings comes from the way sources have been selected and arranged to reflect a particular perspective. Therefore, despite only working within one level of context-dependence, the candidate is building novel contextual knowledge relevant to the goals of the study.

One should also be careful to not interpret the semantic flatline represented in Figure 8.10 as *a lack* of epistemic meanings. The fact that there is not much movement in context-dependence here suggests that other kinds of meanings may be at play here (such as axiological meanings relating to the use of particular sources over others); however, the analysis reveals that epistemic meanings are evident, albeit at only one relatively strong context-dependent range.

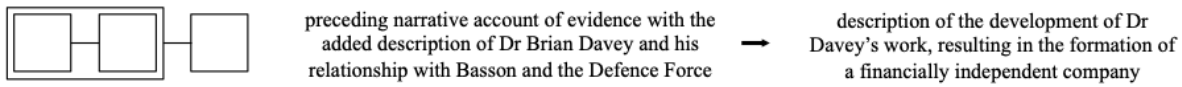
The discussion will now consider how the candidate builds complexity of meaning when constructing relatively strongly context-dependent knowledge.

5.2. Complexity strategies

In this example, the candidate uses the complexity strategy of *arranging* to build small gradations of meaning as she constructs a narrative account of the events. In the first instance (row 1, Table 8.6) she selects and arranges particular sources in order to construct a timeline of events. In doing so, she connects relatively simple meanings to other simple meanings. This is represented as follows:



This pattern of knowledge-building is repeated in row 2 of the analysis, where the candidate establishes further connections to simple meanings contained in other sources. Here, she adds descriptive detail to the narrative account of Dr Davey, explaining how his work developed to a degree that warranted the establishment of a financially independent company.



In doing so, the candidate adds relatively simple contextual detail to the knowledge she is constructing, adding small gradations of complexity over time. This is represented with the relatively weak ESD connector, *exhibiting*, in the above diagram.

The gradual increment of meaning over the course of the text is represented in Figure 8.11 below.

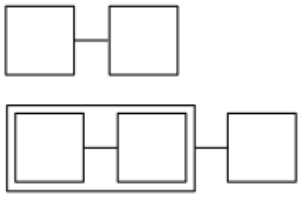


Figure 8.11. Accumulated complexity in contextual weaving

Figure 8.11 shows the overall accumulated complexity in the example. By adding relatively simple meanings over time, the candidate is able to slowly build up a more complex description of her sources to create a rich understanding of the materials at hand. The gradual increments of meaning are therefore playing a particular purpose in allowing the candidate to build a contextualised and gradually more complex interpretation as the text unfolds.

Contextual weaving thus allows candidates to build stronger context-dependent and simple knowledge when constructing findings. By selecting, assembling and recontextualising sources in particular ways, the candidate is able to construct a contextualised novel perspective of the sources – it thus plays a specific and necessary purpose in the dissertation. While this configuration does not reach out to other existing knowledge – which is an important part of showing what is known and what new knowledge is being constructed – the 'new' or 'original' here is implicitly demonstrated in the way the story is told, i.e. in the way in which the sources are drawn on. Importantly, this configuration will seldom be used exclusively throughout the entire *constructing findings* component. Candidates will typically alternate between contextual weaving and comparative weaving, enabling them to build a comprehensive contextual narrative, which they can then compare or contrast to existing knowledge at key points in the text.

Although this configuration is more typically found in knower code components, particularly history dissertations, it can also appear in knowledge code components. This is often seen when knowledge code components separate out 'results'/'findings' from 'discussion'. When doing so, it is common to find this configuration appearing in the 'results' section where candidates present their data with little elaboration or explanation.

6. THE UTILITY OF THE TOOLS FOR REVEALING EXEMPLARY CONFIGURATIONS OF KNOWLEDGE

The above illustrative analyses reveal how the conceptual tools developed in Chapter 7 can be used to reveal three different exemplary configurations of knowledge candidates use when constructing their findings. The examples provided here are not intended to be representative of all configurations – it is highly likely that there are more exemplary weaving patterns that appear in dissertations. These could be revealed through further analyses in future. What the illustrative analyses provided in this chapter have provided, however, is a starting point to making these configurations explicit by providing the tools to do this analysis work and exemplifying how such analyses can be done.

The three configurations of knowledge revealed in this chapter provide important insights into how candidates weave different kinds of epistemic meanings together in order to construct findings in exemplary ways. The analyses have shown how different weaving patterns tend to align with either knower code or knowledge code components enacted in the sample, and how at times, configurations can be used across codes in varying ways. They have also revealed how strategies and configurations of strategies serve a particular purpose when constructing knowledge. Therefore, it is not just about choosing any strategy – each has to be considered in relation to what purpose it serves, what kind of knowledge it builds and how appropriate or useful this kind of knowledge is to the goals of the study at hand. It has also demonstrated how no one strategy or configuration is better than another. Again, all strategies serve a particular purpose and their value comes from what affordances they provide the candidate in terms of the kind of knowledge they build and how this addresses the goals of the study. This is important for pedagogy, as the configurations identified here cannot be taught in generic, un-contextualised ways. They need to framed and understood within specific research contexts to fully engage with their potential for constructing appropriate findings.

The illustrative analyses presented in this chapter also show the affordances of different kinds of knowledge-building. In particular, configuration 1 and 2 support existing studies which suggest the importance of 'semantic waves' when building knowledge (see, for instance Blackie, 2017; Brooke, 2017; Macnaught, Maton, Martin, & Matruglio, 2013; Maton, 2013) – i.e. working between the full range of context-dependence and complexity of meanings over time. This demystifies a lot of understandings of academic writing as highly abstract, obtuse

and impenetrable. Rather, the configurations identified here suggest that enacting a range of context and complexity strategies is a more effective way of demonstrating a deep understanding of materials.

At the same time, however, Configuration 3 importantly reveals the affordances of working within a limited range of meanings. In this sense, the analysis shows how a 'semantic flatline' can play a purposeful role in building particular kinds of knowledge when constructing findings (such as detailed contextual meanings). This again emphasises how configurations serve different purposes within the dissertation. Understanding these purposes is as important as understanding the strategies and configurations themselves, as the purpose – considered in relation to the goals of the study – is what determines the value (and appropriateness) of the kind of knowledge being constructed. This has significant implications for pedagogic development: candidates need to not only be taught what strategies and configurations are available and how to enact them in their writing, but they also need to learn the purpose these practices serve. By understanding the affordances of the knowledge practices, candidates can then make informed decisions about how to go about constructing their findings in ways that are appropriate to their research goals and the broader academic field in which they are working.

As more dissertations are considered in future research, it is likely that additional configurations will be revealed and that a more extensive collection of common patterns of weaving will emerge. This has important implications for pedagogic development. Once an extensive range of common patterns have been analysed and understood using the analytical procedure presented in this chapter, it will then be possible to start creating scaffolding tools for candidates to use when constructing their findings. For instance, it may, in time, be possible to advise candidates that if they want to construct 'x' type of meanings in their writing, then they should enact configuration '2' and so forth.

Furthermore, the analyses presented in this chapter raise the potential for the translation devices and configurations to be developed into diagnostic tools for supervisors to use to support candidates. Given that the strategies revealed here are found in exemplary texts, they can be understood as exemplary knowledge practices. As such, they can in turn be used to understand, in more explicit terms, where weaker writing can be improved. For example, weaker texts could be analysed and mapped out on semantic gravity profiles and complexity formalisms to

show how they are being constructed. These analyses could then be compared to exemplary patterns of weaving to identify problematic areas. Additionally, using the same set of tools for scaffolding, candidates can then be given explicit practical advice on how to enhance their knowledge practices in order to improve the text. Such an approach to feedback would provide candidates with an explicit understanding of not only what has gone wrong but also how it can be improved.

7. CONCLUSION

The illustrative analyses provided in this chapter show how the conceptual tools created in Chapter 7 can be used to identify and analyse a set of exemplary configurations of strategies for context-dependence and complexity. In being able to analyse the knowledge strategies in more detail, the analyses not only showed what context strategies and complexity strategies are commonly used in texts – a useful starting point for pedagogy, but they also revealed *how* the strategies are enacted in exemplary ways. Importantly, the chapter also revealed how the purpose served by each configuration needs to be considered in relation to the goals of the research in order to determine its value and appropriateness for constructing particular kinds of findings. As such, the findings presented in this chapter provide an important starting point for demonstrating the utility of the tools for understanding exemplary knowledge practices for constructing findings. Providing concrete examples of how knowledge can be constructed in practice provides insight that is not readily available in the field, if at all. This has important pedagogical implications which are discussed in the forthcoming chapter.

CHAPTER 9
CONCLUSION

1. INTRODUCTION

This thesis has addressed the practical problem of the need to develop more effective doctoral writing pedagogy to better support doctoral candidates. It has done this by focusing on a 'pre-problem' to this problem: the need to see knowledge in dissertations. Drawing on literature from the field, the thesis has indicated a need for research that is able to consider the features of doctoral writing itself, in order to understand how knowledge is enacted in exemplary ways. To address this concern, the study argued for an approach that can look beyond content knowledge produced in dissertations to rather reveal generalisations about why and how particular knowledge is built in particular ways. Such an approach needed to be able to see knowledge, analyse knowledge and, importantly, reveal the organising principles of knowledge in order to uncover generalizable strategies to inform pedagogy. This study has provided a starting point to developing such an approach.

The research presented in this thesis has provided a qualitative exploratory study of exemplary doctoral dissertations in order to develop a set of conceptual tools for analysing knowledge in writing. Creating tools provides a first step to analysing the knowledge practices in writing. This thesis demonstrates how such tools can be created and it illustrates their utility for analysing the knowledge work involved in the written dissertation. Working from a sample of 25 exemplary doctoral dissertations from a range of subject areas from what is commonly known as the humanities and social sciences, it has addressed the following research questions:

1. What kinds of knowledge practices create a successful doctoral dissertation?
2. How are exemplary knowledge practices enacted in writing?
3. How can conceptual tools analyse exemplary knowledge practices?

To address these questions the study drew on the LCT dimensions of Specialization and Semantics. This framework afforded a way to see knowledge in practices, providing an important starting point for developing theoretically sophisticated but empirically-applicable tools with pedagogic potential for analysing knowledge practices in doctoral writing specifically.

This chapter will now present a summary of the main findings of the research. It will first provide an overview of the four-staged analysis process, synthesising the findings in relation to the research questions informing the study. Following this, the chapter will discuss the findings of the study in relation to doctoral writing pedagogy, outlining how the insights and tools revealed in the study have the potential to shape future pedagogic development. It will then discuss the study's contribution to knowledge in terms of the substantive, methodological and theoretical implications of the findings. Potential limitations and suggestions for future research are also addressed. The thesis ends with a self-reflexive activity where I address the fact that I have written about what makes a dissertation a success while attempting to write one myself. To do this, I use the conceptual tools I have created in this thesis to analyse my own knowledge practices.

2. SUMMARY OF FINDINGS

This section synthesises the main findings of the study revealed through the four stages of analysis.

2.1. Creating a foundation

The empirical analysis presented in Chapter 5 created a new methodological approach for analysing doctoral dissertations. This was seen in the development of an inductive schema for doctoral writing, which distinguishes between five active 'core components' in the dissertation. The schema was developed by considering the requirements of the doctorate, as defined in policy, in relation to thesis-writing guidebooks as well as to the sample of exemplary dissertations. It thus addressed the first research question, *What kinds of knowledge practices create a successful doctoral dissertation?*

The analysis revealed that simplistic and, at times, arbitrary, preconstructed categories such as knowledge types (e.g. 'social science writing' versus 'humanities writing') as well as organisational structures, were unequipped to deal with the variation evident in the sample. This finding supports existing linguistic research (see, for example Ravelli, Paltridge, & Starfield, 2014; Starfield & Ravelli, 2006) which shows how the regular 'centripetal forces' –

a term from genre theory to describe unifying forces in writing such as discipline or subject areas – cannot account for variation across different dissertations.

In order to move beyond common-sense understandings of doctoral writing, a return to policy enabled a way to understand the core features of a dissertation without being constrained by labels, chapter structures or content knowledge (i.e. the topic on which the candidate is writing). In doing so, the analysis revealed how the common-sense expectations set up in many thesis-writing guidebooks (such as thesis structure and labelling) often obscure the many variable options available to candidates when writing their dissertations. This finding supports existing research which has shown that these guides offer little more than a starting point to understanding how to construct an exemplary dissertation (Kamler & Thomson, 2008; Paltridge, 2002; Starfield & Ravelli, 2006).

The broad and generic definition of a doctorate provided by policy comprised three main criteria: (a) making a substantial original contribution to knowledge, (b) demonstrating familiarity with the field, and (c) using appropriate research methods. In order to address these criteria, the analysis found that all dissertations in the sample included five 'core components' – immaterial of structure or form – over the course of the dissertation:

- establishing a rationale;
- explaining the phenomena being studied;
- explaining how the phenomena were studied;
- constructing findings; and
- demonstrating an original contribution to the field.

These five core components, presented as a schema for doctoral writing in Chapter 5, provide a different way to conceptualise and analyse doctoral dissertations. The components identified here are similar to those described in Ravelli, Paltridge and Starfield's (2014, p. 392) study of creative and performing arts dissertations, suggesting the generalizable potential for the schema to adequately account for a larger sample of dissertations.

The development of the schema for doctoral writing enabled a new way to approach the sample that was not constrained by existing simplistic common-sense assumptions and problematic preconstructed categories. Distinguishing between components afforded a way to

conceptualise dissertations as a collection of active parts or activities that respond to criteria for the degree, rather than as expected or uniform chapters. By doing so, the analysis was able to reveal the variation in how the different active parts come together to form a whole dissertation as well as the variant forms these parts take.

The significance of the development of the schema was therefore twofold. First, it provided a necessary first methodological step for the study, in that it was able to overcome the practical hindrance of analysing incredibly large, complex texts that make up doctoral dissertations (as raised by Paltridge, 2002). The schema, in effect, afforded a way to dismantle the dissertations into core components, which I could then more effectively analyse individually before bringing the analyses together to gain a holistic understanding of the whole dissertation. Second, the schema provided an important first step for undertaking the conceptual work of the study, namely in developing conceptual tools for analysing knowledge practices in dissertations. It did this by affording the study an empirical foundation that reflected the features of doctoral writing *as they are found in exemplary dissertations*, rather than according to preconstructed categories commonly used in literature.

2.2. Strategies for enacting knowledge

The Specialization analysis presented in Chapter 6 created a set of conceptual tools for seeing and analysing the knowledge enacted in the five core components of the dissertations in the sample. Drawing on concepts from Specialization, which provided a way to look beyond the *focus* of knowledge practices (i.e. what candidates write about) to rather analyse the *basis* of the knowledge claims being enacted (i.e. the organising principles of the knowledge), a set of strategies were revealed. The analysis thus provided a second step to addressing the first research question, *What kinds of knowledge practices create a successful doctoral dissertation?* and it provided a starting point for considering the second question, *How are exemplary knowledge practices enacted in writing?*

Candidates constructed different kinds of knowledge in each of the five core components by enacting various strategies that emphasise different kinds of relations. To emphasise aspects to do with specialist and procedural knowledge related to the object of study or the research process, candidates enacted ‘epistemic strategies’. Using Specialization, these strategies were understood as emphasising *epistemic relations* between practices and their object as the basis

of the knowledge claims. Candidates therefore used these strategies to emphasise the empirical nature of their object of study as the basis of their claims or to underpin their claims with a specialist approach, such as theoretical or methodological framework.

In contrast, 'social strategies' enabled candidates to emphasise aspects to do with knowers and particular ways of knowing in their dissertations. This could be in relation to the candidate as author, or to other knowers and approaches in the field. Using Specialization, these strategies were understood as emphasising *social relations* between practices and their subject. Candidates could thus use social strategies to base their knowledge claims on the personal qualities of a knower (for example, based on social categories such as race, gender etc.) or on particular ways of knowing (such as immersion within a cultural group etc., or as a result of a master-apprentice relationship).

Given that all knowledge practices necessarily have both epistemic relations and social relations, candidates' use of epistemic strategies and social strategies in dissertations could be combined to reveal different kinds of specialization codes (determined by relative strength of ER+/–; SR+/–). This enabled a way to characterise the knowledge being enacted in the writing according to its organising principles rather than distinguishing between simplistic 'types' of knowledge or having to account for each empirical difference in the sample. The sample of dissertations tended to either enact epistemic strategies – resulting in *knowledge code* practices, or social strategies – resulting in *knower code* practices in each component. They did not typically enact both epistemic and social strategies at the same time (i.e. the sample did not include *élite code* dissertations), nor did they downplay both epistemic and social strategies (i.e. the sample did not include *relativist codes*). Strategy use was also found to shift across components in some dissertations – i.e. some components were written in a knowledge code while others were written in a knower code. It was also found that within these codes, a further set of strategies enabled candidates to emphasise different kinds of epistemic relations and different kinds of social relations.

When working in a knowledge code, candidates enacted 'ontic strategies' and 'discursive strategies'. Using the 4-K model, such strategies were understood as emphasising *ontic relations* between knowledge and its objects of study, and *discursive relations* between knowledge and other knowledges. Enacting ontic strategies enabled candidates to emphasise aspects relating to the object of study as the basis of the knowledge claims being made. For

example, establishing a rationale for a new study on the basis that it contributes a specific object of study that was previously missing from the field. Enacting discursive strategies enabled candidates to emphasise specialist procedures for generating objects of knowledge, such as theoretical frameworks or methodological approaches, as the basis of their claims. For example, candidates could establish a rationale on the basis of using a specific theoretical framework (typical of theoretical studies which study the affordances and limitations of theoretical approaches).

By distinguishing between these two further sets of relations, the analysis could reveal how candidates enact different strategies within knowledge codes that result in nuanced differences between the kinds of knowledge being constructed. As such, candidates enacted *situational knowledge codes* when employing ontic strategies and *doctrinal knowledge codes* when enacting discursive strategies. It was also found to be the case that, at times, candidates combined these two strategies, resulting in a *purist knowledge code*. Distinguishing between the strategies at a more micro level using the 4-K model enabled a way to account for the nuanced variation within knowledge codes.

Similar distinctions were made in knower codes between 'subjective strategies' and 'interactional strategies'. These were understood as emphasising *subjective relations* between knowledge and its subjects and *interactional relations* between knowledge and practices of knowing by subjects. Enacting subjective strategies enabled candidates to emphasise personal attributes of knowers (such as social categories like race, gender, etc.) as the basis of the knowledge claims. For example, establishing a rationale for a study on the basis that the 'right' kind of person will enable the 'right' kind of knowledge to be produced. Enacting interactional strategies enabled candidates to emphasise legitimate ways of knowing as the basis of their knowledge claims. For example, establishing a rationale of a study on the basis of the author's understanding, which has been afforded by prolonged engagement with the ways of working of an esteemed knower through a master-apprentice relationship.

As with knowledge code strategies, the analysis could thus reveal nuanced differences within knower codes. Candidates enacted *social knower codes* when employing subjective strategies and *cultivated knower codes* when enacting interactional strategies. Candidates were also found, at times, to enact both strategies when constructing knowledge, resulting in a *born knower code*.

The analysis presented in Chapter 6 thus provided a starting point for analysing knowledge practices in each of the five core components of dissertations. Using concepts from Specialization and the 4-K model, it revealed how the organising principles of knowledge can be analysed using a specific set of conceptual tools. These tools revealed how knowledge practices are enacted through a series of strategies that construct different kinds of knowledge in varying ways. This provided a way to account for the choices candidates have in terms of the different kinds of knowledge they enact, without needing to account for each empirical difference or having to characterise dissertations into simplistic knowledge 'types'. It thus supports and builds on the findings revealed in Ravelli, Paltridge and Starfield's (2014, p. 401) study of creative and performing arts dissertations, which shows that Specialization can help show that variation and diversity across dissertations 'is not just random noise, or evidence of weak standards'.

Furthermore, by characterising each component individually, it enabled a way to see how candidates shift between strategies (and hence different types of knowledge) over the course of a thesis. This means that one system of categorisation does not replace another: it is not the case that the 'humanities'/'social science' distinction has been replaced by a 'knowledge code'/'knower code' distinction. Rather, the analysis revealed how the conceptual tools are able to characterise the knowledge enacted in components in terms of different strengths and different kinds of *epistemic relations* and *social relations*. In doing so, a set of generalizable strategies used across components to construct knowledge in dissertations was revealed. The tools therefore not only make explicit what strategies exist in doctoral writing, but they also afford a way to analyse how the strategies come together within and across components of the dissertation. The tools thus revealed one set of the 'rules of the game' for exemplary dissertations. This has important implications for pedagogy, which will be addressed in Section 3, below.

2.3. Constructing knowledge in practice

The analysis presented in Chapter 7 created a further set of conceptual tools for seeing and analysing how candidates construct knowledge in one of the components – 'constructing findings'. This component was selected for closer analysis as it is a particularly high stakes part of the dissertation, given that it is here that candidates must construct new understandings of their materials in order to contribute original knowledge to the field. To reveal a further set

of organising principles of knowledge – i.e. another set of the 'rules of the game' – to those provided in Chapter 6, concepts from Semantics were drawn on to establish a new set of tools which I have referred to as 'semantic strategies'. The creation of this second set of conceptual tools thus provided a second step to considering the research question, *How are exemplary knowledge practices enacted in writing?*

The analysis revealed that candidates worked with two main kinds of semantic strategies when constructing their findings: 'context strategies' and 'complexity strategies'. Drawing on the LCT concept of *epistemic-semantic gravity* (Maton & Doran, 2017b), context strategies were understood as tools for negotiating different strengths of context-dependence of knowledge when constructing findings. For example, it allowed candidates to navigate between the concrete particulars of their materials, to generalised claims about the materials, to abstract discussions of the materials using a theoretical framework. Using this understanding as a starting point, a set of conceptual tools for understanding these strategies was created. This involved first identifying the various different context strategies and then positioning them according to relative strength of ESG along a continuum. Doing so enabled a way to analyse the organising principles of the knowledge practices being enacted, providing a way to account for how candidates build different kinds of context-dependent knowledge when constructing their findings. This enables a way to consider knowledge *practices* rather than knowledge *content* (i.e. what the candidate is writing about).

The analysis resulted in a schema for context strategies, comprising three levels of delicacy. At the finest level of delicacy, the schema revealed eight different strategies that candidates enact when constructing findings in exemplary ways. These included, from strongest ESG to weakest ESG, 'presenting', 'summarising', 'interpreting', 'claiming', 'bridging', 'branching', 'generating', and 'theorising'. Given that these strategies were commonly used across the different dissertations in the sample, it is likely that they have the generalizable potential to account for a larger sample of doctoral writing.

Candidates also enacted a series of complexity strategies when constructing their findings. These strategies enabled candidates to build complexity of meaning over time, either by 'unpacking' or simplifying complex concepts to demonstrate their understanding (for example, explaining a theoretical concept in more simple terms) and by 'packing up' or condensing smaller units of meaning in order to create a more complex stance. To understand the

organising principles of these different knowledge practices, as enacted by the strategies, the concept of *epistemic-semantic density* (Maton & Doran, 2017b) was drawn on. The different kinds of complexity strategies identified across the sample of dissertations were positioned according to relative strength of ESD along a continuum. This enabled a way to understand the bases of the different strategies and the effects they have on the knowledge being constructed.

The analysis of complexity strategies resulted in a schema comprising three levels of delicacy. Similar to context strategies, the schema identified eight different complexity strategies candidates enacted when constructing findings in exemplary ways. Working from weakest to strongest ESD, these included: 'portraying', 'arranging', 'distinguishing', 'consolidating', 'associating', 'compacting', 'clustering' and 'constellating'. These strategies were frequently used across the sample, suggesting their utility for accounting for all (epistemic) complexity work in a wider set of dissertations.

While other schemas are available in existing research, for instance, in Maton and Doran (2017b, 2017a) who provide a series of translation devices for analysing complexity in English discourse, the schemas presented in Chapter 7 are some of the first that can account for both context strategies and complexity strategies for constructing findings in doctoral writing specifically. The significance of the analysis is therefore twofold. First, it enabled a way to make these strategies explicit, providing a useful starting point for understanding how candidates make connections between different kinds of knowledge when constructing their findings. Second, in creating the schemas of generalizable context strategies and complexity strategies, the potential for using these schemas as conceptual tools was raised. This potential was explored in Chapter 8.

2.4. Tools for analysing exemplary knowledge practices

Chapter 8 provided an illustrative example of how the schema of context strategies and complexity strategies can be used as conceptual tools for analysing texts. It thus addressed the third research question, *How can conceptual tools analyse exemplary knowledge practices?* Drawing on select extracts from across the sample, the analysis revealed three exemplary configurations of strategies that enabled candidates to construct findings. These configurations were created by negotiating and sequencing context strategies and complexity strategies in particular ways.

The first exemplary configuration revealed was 'subsumptive weaving'. Candidates enacted this configuration by combining context strategies of *presenting, interpreting, claiming* and *branching*, as well as complexity strategies of *portraying, distinguishing, consolidating* and *compacting* in order to move between simple empirical meanings from the context of study to complex academic meanings from the broader field. By sequencing these strategies in particular ways, candidates could introduce a theoretical concept (*branching/compacting*), connect that concept to materials (*presenting/portraying*) and then unpack the implications of the theoretical-empirical connection (*interpreting/distinguishing*). This sequencing of strategies enabled candidates to develop an understanding of the materials using insights from the theory. They could then build on this understanding by forming a claim (*claiming/consolidating*), which could then be linked back up to a theoretical interpretation (*branching/compacting*). This configuration provided a way for candidates to generate theorised understandings of materials by subsuming all preceding meanings into an abstract, complex stance. 'Subsumptive weaving' was more commonly found in knowledge codes, although it was evident in knower codes (although typically knower codes would *branch/compact* to other significant knowers rather than theoretical/methodological knowledge).

The second exemplary configuration revealed was 'comparative weaving'. Candidates enacted this configuration by combining context strategies of *presenting, summarising, interpreting, claiming* and *bridging/branching* and complexity strategies of *portraying, arranging, distinguishing, consolidating* and *associating/compacting* in order to contrast knowledge from within the context of the study to outside knowledge (either empirical findings or theoretical/methodological frameworks). For example, candidates could introduce a theoretical claim (*branching/compacting*) and then link that claim to the materials (*summarising/arranging*), enabling them to create a contrast between theoretical knowledge and empirical knowledge. The contrast could then be explored through the strategies of *interpreting/distinguishing* and *claiming/consolidating* in order to build an argument that the theoretical hypothesis does not hold in the specific empirical context under investigation. Similarly, candidates could enact the strategies of *bridging/associating* rather than *branching/compacting* in order to compare findings with other empirical studies in the field. 'Comparative weaving' was found to be a common feature in both knowledge code and knower code components. When enacted in knower codes, however, instead of *branching/compacting*

to theory, candidates linked to other knowers through *bridging/associating* in order to create similar contrasts between ways of knowing.

The third exemplary configuration revealed was 'contextual weaving'. Candidates enacted this configuration through the context strategy of *summarising* and the complexity strategy of *arranging* in order to provide a narrative description of the materials. Candidates used this configuration to build a foundation of contextual knowledge about their object of study by weaving between different sources. In doing so, they built gradations of contextual meanings over time as materials were arranged in particular ways. 'Contextual weaving' was found to be a common configuration used in knower codes, such as history, which frequently adopted a 'narrative-chronological structuring' (Starfield & Ravelli, 2006, p. 227).

The illustrative examples provided in Chapter 8 show how the tools can be used to identify a set of exemplary configurations of strategies for context-dependence and complexity. In being able to analyse the knowledge strategies in more detail, the analysis is not only able to show what context strategies and complexity strategies are commonly used in texts – a useful starting point for pedagogy, but they are also able to reveal *how* the strategies are used in exemplary ways. The configurations could therefore reveal how candidates achieve semantic flow in their writing by negotiating the use of different context strategies and complexity strategies. The tools also revealed how a common set of semantic strategies can be negotiated and sequenced in different ways to construct different kinds of findings. In doing so, the analysis provides insight into how the configurations can serve different purposes when constructing findings, and how these purposes need to be understood in relation to the goals of the study where they are being enacted. Providing concrete examples of how knowledge can be constructed in practice provides insight that is not readily available in the field, if at all. The implications of providing this perspective are discussed in the next section.

3. IMPLICATIONS FOR PEDAGOGY

This thesis has provided a first step for addressing a 'pre-problem' of pedagogic development – that of being able to see and analyse knowledge practices in dissertations. It has addressed this problem by creating a set of conceptual tools that are capable of seeing knowledge and analysing knowledge. In developing these tools, as well as providing illustrative examples of

how they can be used and what kinds of practices they can reveal, a number of important insights for future pedagogic development have been generated.

The summary of findings presented above reveals how the approach afforded by this thesis is able to make knowledge practices enacted in writing explicit. In doing so, the different knowledge practices can be understood as a series of strategies that have the potential to be taught more explicitly to candidates.

The analysis in Chapter 6 revealed how candidates use a set of generalizable strategies that enable them to construct different kinds of knowledge across each of the components of the thesis. Identifying and understanding in greater depth how these strategies work in writing and how they can be combined across the components of the dissertation, provides a necessary first step for teaching these strategies explicitly to candidates. This would enable a way for pedagogy to be reimagined outside of simplistic preconstructed categories such as 'humanities' and 'social science' to rather be seen as active choices that come together in various ways, with varying effects. As such, instead of offering generic workshops for 'humanities' dissertations – which, as this study has shown, can differ vastly – candidates can rather be explicitly taught the range of different strategies available to them to use when constructing knowledge. For example, candidates can be taught how to foreground the ways of knowing of particular scholars or they can be taught how to emphasise a specialist approach as the basis of their claims. Importantly, adopting this approach, candidates can be taught what foregrounding different knowledge strategies means, what effects it has on the knowledge being constructed in the dissertations (i.e. what purpose the different strategies serve), and perhaps most importantly, they can be shown how to enact these strategies in practice.

The development of a further set of conceptual tools in Chapter 7 provided the means for making explicit the knowledge practices candidates enact when constructing findings. The analysis revealed two schemas of strategies: a set of eight generalizable strategies for negotiating different strengths of context-dependence of knowledge, as well as a set of eight generalizable strategies for building complexity of meaning in writing. Making these strategies explicit in writing enables a way to understand how they work and what effect they have on the knowledge being constructed. As with the set of strategies identified in Chapter 6, first identifying and understanding what strategies are used, how they are used and to what effect,

is an important starting point for pedagogy. Once this understanding has been gained, we can design more effective ways to teach these strategies to candidates.

Building on the understanding of strategies afforded by Chapter 7, the analysis in Chapter 8 provided an illustrative example of how the schema for context strategies as well as the schema for complexity strategies can be used as conceptual tools for analysing texts. Enacting these tools, the analysis revealed three exemplary configurations of strategies. This provides a more in-depth understanding of how candidates weave between different kinds of knowledge in exemplary ways. Using tools to understand these exemplary configurations creates the possibility to not only make the strategies explicit to candidates but to also provide them with a practical 'way in' to understanding the purpose of each strategy and how they can be enacted in their own writing. This raises the potential for these conceptual tools to be developed into scaffolding tools in the future, to provide candidates with practical examples of strategy configurations for them to enact in their own dissertations. For example, it may be possible to show candidates that if they want to do A-B-C when constructing findings, they could use the combination of 1-4-2-5 strategies and so forth. Such potential could be enhanced in time as more texts are analysed, as this would reveal a more extensive choice of strategy configurations.

The findings from Chapter 7 and 8 also raise the possibility for the conceptual tools to be developed into diagnostic tools for supervisors to use to better understand where writing could be improved. For example, if a supervisor feels that a text is 'disjointed' or 'too descriptive' or 'too abstract' but is unable to explain this in explicit, concrete terms, he/she could use the tools to reveal the problematic knowledge practices. The tools would be able to show, in explicit terms, which strategies are being enacted in the writing and it would provide a way to show the candidate how the particular use of strategies has impacted on the quality of the knowledge being constructed in the writing. For instance, 'disjointed' texts may be a result of the candidate jumping between two vastly different strategies (for example, between *presenting* and *branching*). Texts that are too descriptive or too abstract may appear as flatlines in terms of knowledge, in that one strategy might be enacted too frequently. Using the tools in this manner provides supervisors with a way to articulate and explain their feedback in more explicit terms, providing candidates not only with a clear understanding of what is going wrong in the text but also giving them practical insight on how to fix it.

When considering contexts such as South Africa, where there is a need to produce more doctoral candidates and retain doctoral graduates in academia (Cloete et al., 2015), the implications for knowledge-based doctoral writing pedagogy are even more pertinent. Using conceptual tools such as those developed in this thesis, doctoral writing pedagogy can take on a dual purpose of developing candidates and enhancing supervision practice. As already explained, by making knowledge practices explicit, candidates can gain a clearer understanding of not only what is expected of them, but also how they can achieve these expectations in practice. This will enable candidates to write exemplary dissertations. At the same time, however, the deep understanding of the organising principles of knowledge practices gained from such an approach will equip these graduates with essential pedagogic insight to teach future doctoral candidates. This will enhance future supervision practices, increasing the likelihood of reaching higher doctoral throughput rates and quality doctorates. The tools and understanding gained from a knowledge approach to doctoral writing may also provide a means for making the tacit knowledge of writing practices in older generations of supervisors more explicit. There is also potential for the tools to be used beyond doctoral writing, to analyse and better understand knowledge practices in research articles, for example. Such a focus could be taken up in future research.

The above suggestions for pedagogy stem from the findings of this specific study, which has adopted a very specific focus on the knowledge practices enacted through writing. This is an important aspect of dissertations, but it is not the only aspect to what makes dissertations successful. For example, candidates also need to be able to identify and understand limitations in their own and others research. They also need to know what research practices are appropriate for addressing their research question and what is appropriate in terms of their disciplinary norms and values. The suggestions offered for pedagogic development in this thesis therefore provide insight of how exemplary knowledge practices are enacted in writing – a useful starting point for understanding one aspect of what makes a successful dissertation.

4. CONTRIBUTION TO KNOWLEDGE

The findings of the research contribute to three main areas of existing knowledge. First, they contribute original substantive knowledge to the fields of academic literacies, academic development, applied linguistics and the sociology of higher education more generally about

the nature of doctoral writing. Second, the findings contribute methodological insights to the field by modelling how doctoral writing can be analysed in terms of knowledge practices. Furthermore, the study contributes methodological tools and schemas that can be used in future studies of doctoral writing. Third, the findings contribute original theoretical knowledge to the conceptual framework of LCT and to the sociology of education more generally.

4.1. Substantive contribution

The findings of the study have provided key insight into the nature of doctoral knowledge practices and how they are enacted in writing. Apart from Ravelli, Paltridge and Starfield (2014), this is one of the first studies to analyse knowledge practices in an extensive sample of doctoral dissertations from across a number of subject areas. The findings therefore contribute original knowledge to the field in terms of understanding what kinds of knowledge practices create a successful doctoral dissertation and how exemplary knowledge practices are enacted in writing.

The study contributes important knowledge about the nature of dissertation writing. Firstly, it shows how existing classificatory systems in the field cannot sufficiently account for the diversity and variation seen across dissertations. Indeed, these existing systems often perpetuate a simplistic understanding of 'types' of doctoral writing that can obscure the nuanced knowledge work undertaken in the writing. The common-sense assumptions that result from this kind of thinking can also create confusion for candidates in that the different options available to them are not provided or explained. Furthermore, because the field lacks tools to analyse knowledge, the features of knowledge practices are not made explicit to candidates. This means that most advice provided to candidate offers little more than a vague idea of what could be included in a dissertation and it seldom provides any practical guidance of how successful features can be enacted in practice. The findings of this thesis provide a starting point for showing how knowledge practices can be identified, analysed and made explicit to both candidates and supervisors.

By analysing the organising principles of knowledge practices, the findings of the thesis have also demonstrated how dissertations can be written in a variety of different ways by foregrounding different kinds of knowledge and using different strategies for constructing knowledge. This provides a way to account for variation across dissertations that does not rely

on empirical surface features of knowledge – i.e. in terms of what candidates write about. Rather, the variation is accounted for in terms of the kinds of knowledge practices being enacted in the writing. This provides a way to understand not only the way in which dissertations differ but also why they differ and the effect this has on the knowledge being constructed. It therefore provides a way to show that there is no one 'right' or 'wrong' way to write a dissertation. However, rather than adopting a relativist 'anything goes' perspective, the findings show that there are a number of exemplary strategies that can be used to construct dissertations in multiple ways. Therefore, while the form, organisation and content might differ, all exemplary dissertations in the sample work with a common set of knowledge strategies that can be negotiated and assembled in nuanced ways in order to meet the individual goals of the studies. By making these strategies explicit, candidates have a starting point for learning about the different options available to them and how to enact them in practice.

The findings therefore provide a first step to demystifying doctoral writing for both candidates and supervisors, as well as for the fields of academic literacies, applied linguistics, higher education studies and the sociology of education more generally. It is not intended to replace existing approaches from the rich traditions of academic literacies and linguistics. Rather, it is seen as complementing and enhancing such approaches by providing detailed insight into the process of constructing exemplary knowledge practices.[13] By providing a different perspective on the problem of doctoral writing, namely by focusing on the knowledge practices enacted in dissertations, the thesis provides important practical insights that could not only help novice writers learn more effective practices, but it could also support seasoned writers, such as supervisors, who implicitly 'know', but who lack the meta-language to be able to articulate and make this knowledge-building process explicit to candidates. This has significant implications for the future development of doctoral writing pedagogy, as has already been discussed.

4.2. Methodological contribution

Research has shown that doctoral writing is rarely considered in detail because of the methodological constraints dissertations present (Paltridge, 2002). The few studies that do have

[13] The utility of using LCT with other frameworks, particularly SFL, for addressing knowledge-building issues in educational research is demonstrated in existing research (see, for example Macnaught, Maton, Martin, & Matruglio, 2013; Martin, Maton, & Matruglio, 2010).

the tools to reveal important features of writing are typically linguistic studies. Generally speaking, linguistic analyses are usually conducted on smaller pieces of text in substantial detail. This makes analysing whole dissertations and particularly a sample of dissertations very difficult. The inductive schema for doctoral writing presented in Chapter 5 provides a first methodological step by dismantling dissertations into five core components that attend to the main requirements of a doctorate. This provides a starting point for being able to understand doctoral dissertations as collections of active component parts rather than discrete and stable chapters. In a practical sense, it also provides a way to overcome a methodological barrier to analysing doctoral writing in that it makes the analysis of large dissertations more manageable.

As has been shown throughout the thesis, the methodological approach and conceptual tools developed in the study provides the field with the necessary tools to see knowledge and analyse the organising principles of knowledge in doctoral writing. This contribution of a new approach may complement other approaches, particularly linguistic analyses of texts. The adaptability of the tools also means that dissertations can be analysed at varying degrees of 'analytical zoom' – i.e. the tools can be adapted for use at a more macro, broad-brushstroke level or they can be adapted to consider texts in closer detail. This affords analytical flexibility to gain multiple different perspectives of the knowledge work undertaken in dissertations. The illustrative examples provided in this thesis demonstrate how this can be done and it reveals the affordances different perspectives provide.

The thesis has also contributed a way of diagramming knowledge practices, which provides a more tangible representation of the knowledge work involved in writing to complement textual analyses. Drawing on past LCT studies it has demonstrated the value of illustrating context-dependence using semantic gravity profiles. It also contributes a new way of representing complexity that is argued to better reflect cumulative processes of condensation of meaning over time than semantic profiles. The development of a complexity formalism has been described in detail in this thesis so as to provide practical insight for how it may be taken up by others in the field in future research.

4.3. Theoretical contribution

The findings of this thesis have contributed original knowledge to the theoretical framework of LCT by showing how the theory can be used to analyse knowledge practices in doctoral

dissertations. While Specialization has been used in existing research to analyse creative and preforming arts dissertations (Ravelli et al., 2014), this is one of the first theses to examine a substantial sample of dissertations from a range of subjects in the social sciences and humanities. It is also one of the first extensive studies to use both Specialization (including the 4-K model) and Semantics to understand knowledge practices and develop conceptual tools for future research and pedagogic development.

By illustrating how concepts from LCT can be used as a starting point for developing further conceptual tools for specific objects of study (in this case, doctoral writing), the study contributes insights for future theoretical development of LCT. Scholars may find the process of tool development demonstrated and illustrated in this thesis useful for the development of their own conceptual tools in future research – both for doctoral writing and beyond.

The study has also provided the field of LCT with a new way to illustrate complexity of knowledge. The contribution of the formalism for representing complexity – a method of diagramming that is able to show the accretion of complexity over time – may be a useful tool for other LCT scholars. It's simple structure and logic means that it can be easily adapted to suit any form of translation device for complexity, immaterial of the kind of data being analysed.

The findings of the study also contribute new theoretical knowledge to the sociology of education more generally. It provides an approach for seeing knowledge and analysing the organising principles of knowledge in doctoral writing that is currently not available in the field. In doing so, it provides an alternative perspective on knowledge practices in doctoral dissertations that goes beyond distinguishing between knowledge 'types' as well as simple descriptive categories (such as 'pure', 'applied', 'hard', 'soft', 'knowledge of', 'knowing that' etc.) that might work in theory, but which prove limited empirically.

5. POTENTIAL LIMITATIONS AND FUTURE RESEARCH

A limitation of this thesis is that it works with a limited sample of theses. It is thus not a representative study that can account for all dissertations in all subjects in the humanities and social sciences in South Africa. Despite this, the thesis provides a first step for illustrating how

knowledge can be analysed and how these insights have important implications for pedagogy. It thus forms a foundation of knowledge on which future research can build and extend.

A second limitation of this study is that it only considers one of the components of the dissertation, 'constructing findings', in great detail and even within this component, it draws on select illustrative examples. While insights into knowledge strategies could be enhanced by conducting a more extensive analysis of all five components of the dissertation in more detail, the study has provided an important starting point for showing how such an analysis can be done. Significantly, through its exploratory approach, the study has developed a set of conceptual tools that can now be taken up in future research to analyse more components of dissertations in greater analytical detail.

A third limitation of the study is that the conceptual tools developed for analysing context-dependence and complexity strategies in Chapter 7 and 8 only consider *epistemic* meanings relating to *epistemic relations*. This means that there is a need to develop complementary tools that can analyse *axiological* meanings associated with *social relations* in more detail, as all knowledge practices necessarily have both epistemic relations and social relations. Such tools would be able to analyse the value-laden features of writing Bazerman (1981) alludes to in his analysis of literary criticism research articles. Given that understandings of axiological meanings are still being developed in LCT, this work will necessarily need to be taken up in future research. The development and use of tools for epistemic meanings in this thesis, however, suggests that creating similar tools for axiological meanings will be valuable, particularly for analysing knower codes.

A fourth limitation is that this thesis has only considered exemplary dissertations. This choice was informed by the goals of the study, which were to develop insights for future pedagogic and research development. This does not mean, however, that problematic texts cannot or should not be considered in future analyses. This would be a useful avenue for future research, particularly for comparison purposes. The insights provided by this thesis provide a useful starting point for showing how knowledge can be analysed and it provides conceptual tools for research to enact in future analyses.

A fifth limitation of the study is that this thesis has not considered *writing* as a process. It has only considered the final written product of the dissertation. This choice was informed by the

goals of the research. The importance of the iterative drafting process for the development of knowledge practices should not be understated and analysing this process throughout a student's candidature would be an extremely useful study. The value of such a perspective has already been shown in a forthcoming publication using similar tools (Wilmot, forthcoming). Further research into this aspect of doctoral writing could help demystify the learning process involved in developing knowledge practices. It could also strengthen the argument for adopting writing-in-process pedagogic approaches in supervision practices which have been found to enhance and develop candidate learning (Lee & Murray, 2015). The tools afforded by this thesis provide the means for doing such research in the future.

The final limitation of the study is that it does not show the actual pedagogic implications of the research. In this sense, it does not provide evidence of how the findings can be used to develop more effective pedagogy. However, the insights gained here reveal important insights for the 'pre-problem' facing the field of not being able to see and analyse knowledge practices in doctoral writing. The study has afforded an approach and conceptual tools that can analyse knowledge practices, revealing a number of strategies that candidates use to construct knowledge in exemplary ways. This provides a foundation of knowledge about knowledge practices and how they are enacted in writing that was otherwise not available in the field.

6. REFLECTIONS ON A THESIS ON THESES

It would be remiss not to acknowledge the fact that I have written a thesis on how to write exemplary theses. Many of the insights I gained through this research have helped me develop my own knowledge practices. Therefore, it is only appropriate that I self-reflexively characterise my own knowledge practices using the approach and tools I offer the field through this thesis.

6.1. Characterising my own knowledge practices

I first characterise my knowledge practices in terms of the more macro specialization strategies revealed in Chapter 6. I then describe how I constructed my findings in more detail using the semantic strategies revealed in Chapter 7 and 8.

6.1.1. Specialization strategies for constructing components

As with all the dissertations included in the study, this thesis comprises five core components.

(1) Establishing a rationale

I established a rationale for the research on the basis that the field lacked a way to see and analyse knowledge in doctoral writing. In this sense, I enacted epistemic strategies which enabled me to set the study up as legitimate because it addressed a practical problem in the field and in doing so, provided an object of study that was otherwise missing from research (i.e. I emphasised epistemic relations to objects of knowledge). By not emphasising any personal attributes pertaining to who I am as a person, I effectively downplayed social relations in this component. As such, I established the rationale using knowledge code strategies.

Considering epistemic strategies in more detail, I established the rationale by setting up a practical problem in relation to the problem situation. In doing so, I emphasised
a lack of 'that which is known' – the object of study – from the field. This was achieved by enacting ontic strategies which, in effect, emphasised ontic relations between knowledge and its objects of study. Even though I criticised existing research in terms of its theoretical and methodological approaches (which were argued to not be able to analyse knowledge practices), this criticism was done in relation to the problem situation – i.e. in relation to the fact that they lacked the means to analyse knowledge practices in writing. In this sense, it emphasised ontic relations, not discursive relations. As such, I established the rationale using situational knowledge code strategies.

(ii) Explaining the phenomenon being studied

I described the phenomenon studied in this thesis – doctoral dissertations – in detail in Chapter 4, Methodology. I explained the process and procedure of selecting and collecting the sample and I included a breakdown of what the sample comprised. In doing so, I enacted epistemic strategies that emphasised epistemic relations. I did not emphasise who I am as a person as being a salient aspect for the selection or collection of materials. As such, I downplayed social relations, meaning that I enacted knowledge code strategies when explaining the phenomenon.

Within epistemic strategies, I enacted ontic strategies for justifying the inclusion of the selected dissertations. Ontic strategies enabled me to emphasise the fact that doctoral dissertations were chosen on the basis of them providing appropriate materials for the aims of the study – developing conceptual tools for analysing knowledge in writing. The selection was thus informed by the problem situation and what the dissertations could offer in addressing that problem – i.e. an emphasis on ontic relations. They were not, for example, described using discursive strategies, which would have justified the choice of sample in relation to its utility for enacting a particular theoretical approach (which would have emphasised discursive relations). As such, the phenomenon was explained and justified using situational knowledge code strategies.

(iii) Explaining how the phenomenon was studied

I explained how the phenomenon was studied at length in Chapter 4, Methodology by enacting epistemic strategies which enabled me to provide a detailed and practical explanation of how theoretical concepts were enacted on the materials. Prior to this chapter, I had provided a detailed discussion of the theoretical framework informing the study. In doing so, I emphasised epistemic relations to objects of knowledge rather than social relations to who I am as a person or how I have come to know. In this sense, I enacted knowledge code strategies when explaining how the phenomenon was studied.

Within epistemic strategies, I enacted ontic strategies to emphasise the problem situation as the basis of the theoretical and methodological approach adopted in the study. This enabled me to construct an argument that the choice of approach was necessary in order to meet the goals of the study – i.e. to analyse knowledge. The emphasis placed on the utility of LCT for developing such tools was achieved by enacting discursive strategies, meaning that at this point in the thesis I was strengthening discursive relations. However, the basis of the choice of theory and methodological approach was consistently justified in relation to the needs of the problem situation – i.e. in terms of what the approach afforded with regards to revealing knowledge practices in writing. As such, I enacted a situational knowledge code for this component.

(iv) Constructing findings

I constructed the findings of the research using epistemic strategies that foregrounded specialist, procedural knowledge relating to knowledge practices in doctoral dissertations. In doing so, I emphasised epistemic relations to objects of knowledge. I did not emphasise personal attributes to do with me as a knower/researcher, nor did I emphasise other knowers as playing a particularly important role in developing an understanding of my materials (i.e. I downplayed social relations). As such, I enacted knowledge code strategies in this component of the thesis.

Despite the fact that I enacted theory in order to construct findings, the basis of my claims was on what the theory could show in terms of understanding and analysing knowledge practices. As such, I enacted ontic strategies that emphasised ontic relations between knowledge and its object of study. This was particularly the case for the first three findings chapters (Chapters 5–7), resulting in a situational knowledge code. As I moved into Chapter 8, however, I shifted strategies by strengthening discursive relations between procedures for constructing objects of knowledge. Using discursive strategies, I emphasised the development of conceptual tools for analysing exemplary configurations of knowledge practices. The utility of the conceptual tools, however, was still emphasised in relation to what they could reveal about the object of study (i.e. the findings maintained an ontic basis). As a result, the findings constructed in Chapter 8 shifted towards a purist knowledge code, given that both ontic strategies and discursive strategies were enacted.

(v) Demonstrating an original contribution to the field

I demonstrated an original contribution by emphasising how the approach afforded by the research was able to reveal a new object of study for the field. I therefore used epistemic strategies to emphasise epistemic relations to specialist knowledge about knowledge practices in doctoral writing. I did not emphasise any personal attributes relating to who I am as a knower or how I have come to know when demonstrating the contribution (i.e. I downplayed social relations). As such, I enacted knowledge code strategies in this component.

Within epistemic strategies, I emphasised ontic relations between knowledge and its objects of study – i.e. to ‘that which is known’ by constructing an argument that the findings of my

research provided a new object of study to the field that was previously unavailable. I therefore used ontic strategies. Despite emphasising the development and utility of conceptual tools for analysing knowledge practices in writing, the basis of the contribution is on what these tools provide the field in terms of analysing knowledge practices in writing. As such, the contribution is not constructed as providing a new theory in relation to other theories (which would emphasise discursive relations). Rather, the tools (the *focus* of what is being written about) are legitimated on the *basis* of contributing a new object of knowledge to the field. I therefore enacted a situational knowledge code in this component.

6.1.2. Semantic strategies for constructing findings

I used both 'context strategies' and 'complexity strategies' to construct my findings. In terms of 'context strategies', I started Chapter 5 by moving between *interpreting, claiming* and *bridging* in order to discuss how existing literature and thesis-writing guidebooks described successful features of dissertations. I then drew on my own sample through *presenting* and *summarising* strategies to incorporate empirical descriptions of the dissertations into the discussion, which I enacted using *interpreting* and *claiming* strategies. I then linked these empirical observations back to literature through *bridging* and *claiming* in order to show how the sample contradicted assumptions or supported findings in literature. I then enacted a combination of *summarising, interpreting, claiming* and *bridging* strategies in order to develop a schema for doctoral writing. I concluded this chapter by enacting *claiming* and *bridging* strategies to show how the schema overcomes issues in existing literature, and I enacted *branching* strategies to point to the use of theory used in the next chapter to understand the schema in more detail.

In Chapters 6–8 I enacted iterative configurations of context strategies. The pattern comprised mostly *presenting, interpreting, claiming* and *branching* strategies. These strategies enabled me to create connections between my own materials (the sample of dissertations) and the theoretical understanding afforded by LCT. In particular, I was able to use the conceptual tools developed from the theory to analyse the organising principles of the knowledge being enacted in the dissertations. Through the enactment of *interpreting* and *claiming* I was able to demonstrate my understanding and analysis work. When I reached out to knowledge beyond my immediate research context I enacted the strategy of *branching* more so than *bridging.* This was because I drew on theoretical knowledge more so than existing empirical studies (given

that there are very few studies that consider the knowledge work in doctoral writing). At the end of major sections, particularly the end of chapters, I enacted *generating* strategies to indicate the implications of the findings for the field. I also enacted *theorising* strategies (particularly in Chapter 7 and 8) to point to the theoretical and methodological implications of the conceptual tools.

In terms of complexity strategies, I built mostly empirical meanings in Chapter 5 relating to the materials at hand through *distinguishing* and *consolidating* strategies. To add complexity to these meanings I enacted *associating* strategies to establish links with outside knowledge from policy, thesis-writing guides and linguistic analyses of dissertations. In Chapters 6–8 I enacted a wider range of complexity strategies that enabled me to build complex epistemic meanings in relatively short spaces of text time. For example, I enacted the strategy *compacting* frequently in the chapters. This enabled me build complex, technical theoretical meanings into the simple meanings contained in the quotations from the dissertations, which were presented using *portraying* and *arranging* strategies. In order to mediate this complexity gap, I regularly enacted *distinguishing* and *consolidating* strategies to unpack theoretical knowledge and to 'pack up' explanations and interpretations into more complex stances. To construct complex understandings of the knowledge work undertaken in the sample I enacted *clustering* strategies towards the ends of my chapter to demonstrate the implications of the findings for other empirical studies in the future. I also enacted *constellating* strategies, particularly in Chapters 7 and 8, to demonstrate how the theoretical implications of my findings may contribute to the development of theoretical frameworks and methodological approaches.

I therefore made extensive use of 'subsumptive weaving' throughout the thesis. Using this configuration was an effective way for me to build a lot of epistemic meanings very quickly. This was necessary, given that the goals of the research were to develop conceptual tools from the illustrative analyses. This means that I had to develop complex, generalizable theoretical insights of my materials in a relatively short space of time. I therefore could not spend too much time describing my sample (i.e. by enacting only *reproducing* context strategies and *exhibiting* complexity strategies), but had to engage with concepts from LCT from an early point, as it was through this framework that I was able to see knowledge. I did this by enacting *broadening* context strategies and *linking* complexity strategies. I then had to develop conceptual tools for analysing knowledge in doctoral writing specifically. This involved negotiating between the specifics of the data and the abstract and complex theoretical notions

provided by LCT. Enacting *understanding* context strategies and *elaborating* complexity strategies enabled me to bring these two sets of meanings into dialogue to create specific conceptual tools. Drawing on the full range of semantic strategies in iterative cycles thus enabled a way for me to build theoretically sophisticated but empirically applicable tools for analysing knowledge practices in doctoral writing.

6.2. The affordances of my knowledge practices

At no point in the thesis do I emphasise who I am as a person – i.e. the fact that I am a white, middle-class, female South African studying in Australia, is not made explicit as the basis for legitimacy in the thesis. In this sense, subjective relations to knowers are downplayed across all the components of the thesis. Similarly, I have not foregrounded how I have come to know – in my case, studying under the architect of Legitimation Code Theory, Professor Karl Maton, at the University of Sydney. In this way, interactional relations between ways of knowing have also been downplayed across the thesis. That is not to say that who I am or whom I have studied under does not affect the thesis. However, the conceptual tools provide the means to reveal how I have chosen to *present* the thesis, in terms of how I have made claims throughout the thesis.

By enacting a knowledge code, I have also built complex epistemic meanings about a practical problem that are not dependent on a specific kind of knower. I have specifically chosen to present my study in this way. Typically, the scholars who know the most about doctoral writing have been afforded this understanding by working in the field for an extended period of time – either as writing practitioners or, most likely, as supervisors. Through their experience and interactions with particular schools of thought, they have developed a 'cultivated gaze' – an accumulation of years of implicit understandings, often described as 'socialization practices' in academia. By constructing this research in a knowledge code, I have provided a way to make this tacit knowledge and way of knowing more explicit. The hope is that by doing this, the tacit knowledge practices involved in doctoral writing will become more accessible to a greater number of knowers.

7. CONCLUSION

This was a thesis on theses. It addressed the practical problem of the need to develop more effective ways to teach doctoral writing by returning to a 'pre-problem' facing the field of not being able to see knowledge practices in writing. Working off a sample of 25 exemplary doctoral dissertations the thesis has illustrated an approach that can see knowledge, analyse knowledge and, perhaps most importantly for future pedagogic development, can reveal the process for constructing exemplary knowledge practices in doctoral writing. It contributes a new conceptual and methodological approach to the field, and most significantly, a set of conceptual tools that can be used to analyse knowledge practices in dissertations. It thus provides a significant starting point – a foundation of knowledge – on which future research can build and pedagogy can be developed.

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