Working knowledge of academic practice:

Implications for professional development

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Abstract

This study sought to investigate the working knowledge of academics in a 'new' university in Australia. Working knowledge, or knowledge 'put to use' in day-to-day work, describes what academics actually do. What knowledge academics use day to day is vital for those concerned in the development of academic staff. Academic development has of late focused on supporting academics to respond to the changing demands of new forms of work, and has been accused of lacking an epistemological base or a clearly articulated position. The findings of this study make suggestions concerning a philosophical and practical way forward for the development of academic staff.

This study adopts and develops phenomenographic method. It explores interviews with 20 academics to identify differences concerning what is necessary and valuable to know in order to work day-to-day as a practising academic. From the perspective of academics, this analysis identified three domains of working knowledge within daily academic practice. Unsurprisingly two of these domains are the relatively well-explored fields of teaching and research. The third, previously unidentified as a specific field, was institutional administration. Understanding of and practice in this third new field was not only pivotal to the constitution of academic practice, but it appeared to mediate the ways in which the other two domains of teaching and research were brought together. Of further significance, working knowledge of institutional administration was implicated in academic identity and also signalled academics' more fundamental understandings of what constituted knowledge.

The findings suggest the object of academic development is supporting the attainment of ontological and epistemological certainties and its subject is working knowledge. This repositions academic development practice away from fragmentation towards holistic, whole-of-work approaches.

Doctor of Philosophy declaration

I, Rhonda Hallett, declare that the PhD thesis entitled *Working knowledge of academic practice: Implications for professional development* is no more than 100,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Signature ..... Date .....

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List of publications and awards

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Hallett, R 2008, 'Academic practice: Conceptualising professional development for pedagogical innovation', *Conference Proceedings, World Association for Cooperative Education (WACE),* Sydney, Australia (September).

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Hallett, R & Martin, E 2006, 'The working knowledge of academics: A phenomenographic study', *Proceedings, EARLI Special Interest Group (Phenomenography),* Hong Kong, China (Dec).

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Prologue

This study evolved from my work in academic development at Victoria University (VU) over the last 15 years. A consistent theme in my professional practice as an academic developer is the dissonance between what academics are required to do in response to institutional policies and strategies, and what they actually do in their day-to-day work in response to realities 'on the ground'. Academic development is a practice in my experience that walks a line between institutional demands to help academics to know about and respond to institutional requirements and academics' demands for support that reflects the 'real' needs that evolve in day-to-day work. Sometimes these perspectives align. In the course of my practice I observed different ways that academics reconcile competing demands in their day-to-day work.

The study's origins were in observations I made as a range of institutional policies and strategies were introduced during the last 10 years. These required increased accountability from academics and mandated particular practices, such as Work Integrated Learning in teaching, that, in short, were perceived by many academics as out of kilter with what academics did and knew would work on the ground. I observed different responses to these demands that stimulated my interest in the knowledge academics needed to know about in their day-to-day work.

My work as an academic developer in two sets of circumstances led me to conduct an analysis of the knowledge academics use in their day-to-day work — their working knowledge — and its role in experiences of academic work.

The first was in the context of my role as coordinator of the University's Graduate Certificate in Tertiary Education (1999-2005). I observed that participants, in one way or other, consistently spoke about the difference between the ideal of good teaching promoted in the program (and referred to in institutional policies), and the 'realities' of what confronted them when they returned to their own context. Over time, in response to these comments, the program was reworked so that the 'realities' were the starting point, and learning outcomes were expressed as practical solutions to problems emerging in practice. An intriguing by-product of this approach was the expression of

what academics knew about how to work and 'get things done' with regard to their teaching. This knowledge was often not strictly about teaching, but clearly related to it. I observed also that this knowledge was often couched in terms of what they thought academics should do; 'That's what academia is about' or 'It's not my job to do that' were part of these discussions. On reflection, it was clear to me that knowledge of the 'realities' of work was tied up with what academics thought they should do. This idea increasingly preoccupied me and focused my attention on practical knowledge and its role in day-to-day work.

The second set of circumstances was in my role as head of a unit of academic developers where, from time to time, newly appointed educational developers were inducted to the organisation. I observed that no matter how experienced developers were, they required knowledge about 'how things worked' so that they could be most effective in working with academics. Over time, and in parallel with the adoption of the approach described above, I refocused the induction to ask 'What do you need to know to work as an educational developer here?'

My passion for understanding knowledge used in everyday work by academics emerged from the observations above and sustained me through this study. Describing academics' working knowledge (what they know about their day-to-day work) and gaining insight into its connections with ways of understanding academic practice emerged as the study's two main aims. Understandings gained from this investigation will continue to inform my practice as an academic developer. As well, the study will contribute to thinking about the nature of academic development in institutions such as VU where there are demands on academics to change their practice.

Chapter 1 Introduction: Working knowledge and the academic development discourse

The discourse about academic development is about academic work and learning. While it overlaps with disciplinary and education discourses, it occupies a space that is uniquely focused on academic practice and the ways academics come to understand their work (Taylor 2010, Sutherland & Taylor 2010, Peseta 2011a 2011b). The boundaries around this space are defined by the ways academics and their work as teachers and researchers are represented and described. This discourse is characterised by its treatment of teaching and research as discrete activities, despite acknowledgement of the holistic nature of academic work and the need for a holistic focus reflecting the conditions of work in academic development (for example, Brew 1996, Akerlind 2005, Ahlberg 2008, Mathieson 2011). This representation of academic work simultaneously reflects and contributes to its fragmentation (Rowland 2002) while also highlighting the need for a clearer articulation of the knowledge base of academic development (Peseta 2011). My objective in being part of this discourse is to contribute to the discussion about the ways academics and their work are represented and described.

Academic development is also a discourse about knowledge production and its management. Its object, broadly, is to support critique about the purposes of higher education itself (Rowland 2007), though the 'forms of knowing' are still being developed and described (Clegg 2009). Disciplinary knowledge is privileged in this discourse over practical or everyday knowledge and understood as the key to understanding the epistemological foundation of academic practice. The role of practical or working knowledge of the discipline and the institutional context in which it is practised is acknowledged but not explored in detail, despite acknowledgement that this way of knowing is sophisticated and complex (Symes and McIntrye 2000). The importance of 'everyday knowledge' and the everyday experience of academic work is now the focus of some interest because of what it can tell us about the actual conditions of contemporary academic work and how academics are responding to its demands (Archer 2009, Clegg 2008).

Just as academics are defined by what they do, so they are defined by what they don't do. Contemporary accounts of academic practice catalogue the expanding list of non-

core tasks associated with institutional accountability and quality systems and their impact on the time available to undertake teaching and research (for example, McInness 1996, 2000). Academic practice from these accounts is remarkable for the ways that academics are responding to demands for other kinds of work in addition to teaching and research and what is left out of day-to-day work. I am interested in this variation.

To speak of academic work and academics themselves as a homogenous group is misleading. It is now almost a truism that there are many academic tribes and territories (Becher 1989), but in addition, within these there are also orientations towards teaching or research and emergent 'hybridised' forms of practice arising from demands for new modes of knowledge production and new ways of working (Usher 2000). This is a complex and, despite multiple and diverse studies, an incoherent and confusing picture of contemporary academic work that does not offer many accounts of the experiences of academics from their perspective of academics. My aim is to examine how this knowledge is constituted by academics: what it is in relation to academic work ('Perspectives on working knowledge in academic work', chapter 2), how to identify and describe it ('The challenge of working knowledge', chapter 3), what it comprises ('The domains of working knowledge', chapter 4), 'Relationships between the domains of working knowledge', chapter 5), and 'Being an academic with working knowledge', chapter 6), what this means ('Emerging perspectives on working knowledge', chapter 7) and why this is significant to academic development ('Implications for phenomenography and academic development', chapter 8).

In intend to focus my analysis on academics in a 'new generation' university in Australia, where I have worked in academic development roles for the past 15 years. It is important to stress that academics in the context for this study are representative of academics' experiences in contemporary universities. My conclusions, if valid, should apply as much to academics in research-intensive institutions where work is less exposed to the influences of trends on academic work as academics in non-traditional institutions such as the site for the study where the effects are felt first and often more intensely (Archer 2008). My research moved from an analysis of what academics said they knew in order to do their work to an analysis of what lay beneath these descriptions, and what this told me about the epistemological assumptions underpinning

the day-to-day work of academics. Working with the idea that what we know informs who we are and how we see ourselves, I realised that the working knowledge of academics offers representations of the ways academics see themselves as academics as they are in day-to-day work — not what they are in an abstract or theorised sense. I take the view that academic development discourses rest on abstract and idealised representations of academics and academic work which do not take full account of the realities of day-to-day work and the compromises that academics make in order to work. I am arguing for consideration of practical or working knowledge as the 'content' of academic development and a component of any 'curriculum' for this area of academic work (Peseta 2011), and a more critically orientated practice in academic development that examines its assumptions about academic work and academics.

In offering a critique of academic development, I am seeking to strengthen the discourse rather than undermine it. I see this thesis as a contribution to the discourse. My argument is that by considering the everyday knowledge of academics we can also critique our own practice as academic developers and respond to calls for a reinvigoration of its epistemological base (Brew & Peseta 2006, Peseta 20011). The working knowledge of academics is integral to the working knowledge of academic developers.

Chapter 2 Literature review: Perspectives on working knowledge in academic work

Introduction

The key question underpinning the present study is: *What is the working knowledge of academics?*

The study draws on the concept of working knowledge and explores what it means in the everyday work of academics. The primary focus of the study is the knowledge that underpins the work of academics. It is concerned with understanding academics' perceptions of what academics need to know to work as academics. The study is not concerned with describing and analysing influences on academic work at the systems or process levels, rather, it is concerned with understanding the plurality and complexities of practices to which current research about academic practice points.

Because of its focus on knowledge underpinning the plurality and complexity of academic practice, the study centres on the relationship that academics have with knowledge itself. It acknowledges the changing nature of knowledge and seeks to explore the impact of these changes on academic work and the ways that academics see their work. It attends to how new knowledge forms challenge thinking about the ways that universities are being reshaped and how academic work is changing. By asking 'What is the working knowledge of academics?' the study is exploring a critical issue for the key occupational grouping that is at the centre of dramatic and unprecedented change in the ways that we think about knowledge itself. The answers to the key question asked by the study offer ways of understanding the ways in which academics experience their relationship with knowledge.

Questions about the nature of academics' relationship with knowledge emerge from the working knowledge literature and are the starting point in the literature review that follows. The key question asked in the first part of the review is: 'What does the literature about working knowledge tell us about the working knowledge of academics?' The answers to this question are then explored in relation to the literature about academic practice. In the second part of the review I ask what can the literature about academic practice tell us about the everyday work of academics?' My aim is to identify

key themes in the literature about working knowledge and academic practice that can inform the critical reading of selected phenomenographic studies that follow in the third part of the review, in which I ask: 'What can the literature on phenomenographic approaches tell us about how academics experience academic work?'

Part 1: Working knowledge literature

In part 1 of the review, I examine a diverse literature that focuses on defining and describing the concept of working knowledge. The key question asked in this study is:

- *'What is the working knowledge of academics?*

In this section I ask:

- *'What does the literature about working knowledge tell us about the working knowledge of academics?'*

A major category of literature relevant to this study is that which focuses on the changing nature of knowledge in a contemporary society. The literature identified for this part of the review is associated with a conceptualisation of knowledge that brings the interface between work, learning and knowledge into sharp focus (Barnett 2000, p *ix*). This is a diverse literature that sees the term 'working knowledge' as encapsulating ambiguities inherent in emerging definitions of knowledge in response to the rise of the so called 'knowledge society' (ibid). A key premise underpinning discussions about new knowledge is the understanding that working knowledge is produced through learning at work — through work-based learning (WBL), broadly defined. An important focus of this literature is how universities, as the traditional sites for knowledge production and dissemination, can respond to new definitions of knowledge that include the notion of WBL. The implications of WBL for universities are an important aspect of this literature.

There is considerable interest in the issue of WBL and its implications for universities (Boud et al 200, p3*).* Two pioneering books edited by Symes and McIntyre (2000) and Boud and Solomon (2001) examined the socio-economic factors influencing the adoption of WBL in universities (the former) and the pedagogical and curriculum issues

associated with implementation of WBL as an approach to supporting student learning in the university context (the latter). These collections consider the impact of WBL on academic work practices and processes. The interest in WBL as a curriculum initiative in universities continues to grow (Nixon et al 2006, Lester & Costley 2010), and the issues identified in these collections continue to be explored (for example, Boud & Costley 2007, Costley 2007, Costley & Armsby 2008).

A critical aspect in the WBL literature relevant to this review relates to the definition of working knowledge that underpins discussions about its introduction in universities. There is agreement that the term 'working knowledge' is tied to the notion of expertise, and through this, to the concept of professionalism-; the argument is that working knowledge is acquired in work and through practice. Expert knowledge is also acquired in practice, so working knowledge is more than knowledge sufficient to 'get things done' (Symes & McIntyre p3). Working knowledge comprises both tacit and explicit knowledges (plural), the critical elements of expertise itself (Barnett 2000, p *ix*). The role and nature of tacit knowledge in relation to explicit knowledge in building expertise are broadly known: it is 'situated' in the immediate context of work, has high use value, but is short term and often context specific (ibid). In contrast with explicit knowledge, which is traditionally acquired through the formal educational process and is well codified in relation to different occupational groupings, tacit knowledge is problematised in this literature in terms of how universities can support profession knowledge formation and development through WBL programs (Caley 2001, p114). In this argument, the acquisition of professional expertise is linked to learning processes that acknowledge and accommodate tacit knowledge.

In definitions of working knowledge, learning processes that acknowledge and accommodate tacit knowledge are connected to the concept of worker identities. Stevenson for example, argued that working knowledge is more than '*knowledge that works* and which one can rely on when called upon for various goals', and *knowledge for that set of activities that we call work* which can be used 'to meet the demands of tasks that we encounter at work'. It is also knowledge that is connected to all aspects of an individual's life and is central to who they are (Stevenson 2000, p517). This is a recurring theme in related studies. It is argued by others (for example) that worker

identities are shaped by the socio-political cultures of the organisational context (Tennant 2000, p126). In this argument, the knowledge produced by workers in their everyday work is a product of the ways that the organisational context defines what counts as knowledge. In the process of generating knowledge, workers 'construct and reconstruct their identities from the discursive resources available to them.' (Chappell *et al* 2000, p135). These new discourses, it is argued 'are working to change the identities of learners as workers and educators' (ibid p136) because the emphasis in these discourses is on positioning all workers as learner/workers in the organisational context. Nevertheless, multiple discourses and multiple identities can exist simultaneously within organisations. These identities signify competing understandings about what counts as knowledge for workers in organisations (Tennant 2000, Hager 2000, Chappell et al 2000, Boud, McIntyre & Solomon 2000).

The changing nature of knowledge

The major argument made in the literature about knowledge in contemporary society is that understandings about knowledge are changing and that this has significant implications for academic work. Gibbon's Mode 1/Mode 2 dichotomy of knowledges, it is argued, offers a way into understanding the different knowledge codes that academics need to work with and understand (Boud & Solomon 2001, Symes & McIntyre 2000, Usher 2000, Tennant 2000). These discussions inevitably encompass the role of universities in knowledge production and the challenge that Mode 2 knowledge poses for universities. It is argued that universities are no longer the only sites where knowledge is produced and distributed: 'what counts as legitimate knowledge and what is a legitimate site of learning and knowledge production' is in question (Boud & Solomon 2000, p226). New discourses that support corporatisation, commercialisation, commodification, internationalisation, and performativity on work in general within universities reflect the changing nature of knowledge and the influence of new policy frameworks that support it (McIntyre & Solomon 2000).

The influence of new policy frameworks in universities that support changing definitions of knowledge are identified in this literature as a key influence on academic work. It is argued that new discourses associated with corporatisation, commercialisation, commodification, internationalisation, and performativity support

different forms of knowledge production and redefine what counts as knowledge. These new discourses support Mode 2 knowledge production and are therefore in competition with existing discourses that support the production of Mode 1 knowledge. The appearance of these new discourses has caused 'friction and conflict within the academy' (Usher 2000, p100). Hager for example, identifies that academics now face different knowledge 'scenarios' in their day-to-day work: a traditional 'academic knowledge scenario' that encapsulates Mode 1 ways of knowing and an alternative and competing Mode 2 scenario which forces academics to rethink current conceptions of knowledge (Hager 2000). These new ways of knowing, it is argued, bring the core aspects of academic work into new relationships with each other. A key conclusion is that academics need to come to terms with new definitions of knowledge and understand the implications that this has for teaching and research (Carrick & Clegg 2000, Usher 2000, Boud et al 2001, Boud & Solomon 2001).

The implications, it is argued, are far reaching for academics with respect to teaching and research practices. The argument is that universities have little choice but to acknowledge and adopt approaches to teaching and research that generate Mode 2 knowledge (Symes & McIntyre 2000; Boud & Solomon 2001). The key way that universities can do this is through the introduction of WBL approaches, as WBL repositions universities in relation to work in powerful ways (Boud et al 2000, p3). WBL, it is argued, is 'one of the very few innovations related to the teaching and learning aspects of post-secondary education that is attempting to engage seriously with economic, social and educational demands of our era' (ibid). However, WBL blurs the boundaries between teaching and research and this process, it is argued, redefines what counts as knowledge for academics (Usher 2000, Chappell et al 2000). Academics must come to understand research as co-produced by universities and workplaces and socially distributed through the WBL process (Solomon & McIntyre 2000). It is acknowledged, that once attained, this understanding will require considerable adjustments by academics to the ways they approach teaching and research and a new set of skills to achieve it (Boud & Symes 2000, Boud 2001, Boud & Solomon 2001). These adjustments, it is argued, also relate to how academics see themselves behaving as professionals (Boud & Symes 2000).

Mode 2 work behaviours

The second and related argument made in this literature is that, as a consequence of changing modes of knowledge production and dissemination inherent in Mode 2 ways of knowing, work itself is changing. The argument about the impact of changing modes of knowledge production and dissemination focus on performativity — the need to demonstrate that work has impact in socially useful ways. In this argument, the model for knowledge production based on social distribution and collaboration 'is in effect a performative discourse' (Usher 2000, p102). This discourse encourages the measurement, recording and judging of knowledge for its use value (Garrick & Clegg 2000). The argument as it applies to academic work is that university policy discourses define desirable work behaviours and therefore regulate behaviours that support how academic performativity is understood and measured at the institutional level (McIntyre & Solomon 2000). The academic workplace is thus a 'performative university' in which academic work is defined and regulated according to the broad parameters set by discourses that support the generation of new knowledge (Usher & Solomon 1999). Academic teaching and research practices are therefore the products of performance cultures that are supported by institutional policies.

It is argued that WBL policy discourses challenge existing academic practices because they support the performative measurement of teaching and research (McIntyre & Solomon 2000). It is argued that in WBL policies, teaching and research practices have a public dimension and are therefore subject to measurement and evaluation in ways that current practices are not. Boud and Solomon (2001) for example, argue that such policies challenge academics to acquire expertise based on knowledge of practice rather than disciplinary knowledge. In the case of teaching practices associated with WBL, this requires skills 'that make the visible and sayable what was previously invisible and unsaid' (ibid, p28). The consequence of this, they argue, is that performance goals in the curriculum, traditionally accountable to disciplinary and professional bodies of knowledge, have shifted to other forces that include consideration of 'the organisation, the learner and the community' (ibid, p28). The use value of learning — for the organisation and the learner — is a key criterion for evaluating impact of teaching performance. Similarly, is argued that the measurement of specific types of research outputs through audit processes 'has brought to the surface a contestation about what

constitutes worthwhile knowledge and this has had an effect on academic research, academic texts and subjects.' (Chappell et al 2000, p140). WBL policies for example, entail the inclusion of other collaborators in the production of knowledge and thus challenge academics to move outside of expert knowledge based on discipline and professional knowledge (Boud & Solomon 2000, p224). The conclusion of these arguments is that monitoring and evaluation of teaching and research practices in response to new epistemological formations of knowledge are accentuated by WBL policies (ibid). The implication of this analysis is that academic teaching and research practices will increasingly reflect responses to demands for measurement and evaluation of knowledge for its use value.

Discussions about the implications of performative measurement of academic work point to variable academic teaching and research practices in response to new epistemological formations of knowledge. The argument is that academics will resist WBL or other pressures to change teaching and research practices as these practices encapsulate academic identity and professional practice definitions (McIntyre & Solomon 2000). Role reconstruction required of academics in response to new understandings about knowledge is anticipated largely as a process of adjustment and adaptation instead of adoption. For example, in the case of research, diversifying roles could theoretically include practices that support three possible 'research games', only one of which resembles existing discipline-bound practices (Stronach and McClure 1997, quoted by Chappell et al 2000). The first 'game' is 'traditional' and includes the generation of knowledge within discipline boundaries; the second is an adaptation of discipline-based research; the third most resembles 'new' knowledge production. Similarly, it is anticipated that teaching practices reflecting varying levels of resistance to or adoption of change will also co-exist in the academy — especially if WBL gains traction as a pedagogical innovation (Mcintyre & Solomon 2000). The potential for resistance is high as 'academic work offers scope for resistance' (ibid, p96). Thus, although it is argued that some academics will adopt new research and teaching practices and thus identities, the view is that adoption will be uneven and often resisted (ibid).

Resistance to the adoption of new research and teaching practices is linked in these arguments to discussions about academic professionalism and the defence of the expertise base that currently underpins academic work. The argument is that the professionalism of academics, like other professionals, is under 'assault' as a result of new knowledge codes that determine knowledge generation and dissemination (Beck et al 2005). It is argued that this restructuring of knowledge codes and the inclusion of others in the process of generating knowledge implicit in Mode 2 knowledge codes undermines definitions of professionalism identified by theorists such as Oakeshott (1962), Ryle (1949), Polanyi (1967) and Eraut (1994). According to these theorists, a profession is defined by a specific and specialised knowledge base to which a particular occupational grouping lays claim and which defines their expertise. Expertise is understood to comprise knowledge that is focused on the 'what' and the 'how' of practice, with the 'how' identified as critical to development of professional expertise (Polyani 1967, Argyris & Schon 1974, Schon 1983, 1987, Eraut 1994). On the basis of these theories of professionalism, it is argued that the expertise of academics is subject to extreme restructuring in this context because of their intense relationship with knowledge generation and dissemination (Beck et al 2005, Brew 2003). Furthermore, it is argued that the professionalism of academics as a professional grouping is being redefined because of its changing knowledge base (Nixon 1998, Marginson 2000, McWilliam 2004). Discussions about the impact of WBL on teaching and research practices point to its potential to further challenge definitions of academic expertise (Boud & Solomon 2001, p25). These practices, it is argued, have potential to displace academic knowledge in favour of practice-based, distributed (Mode 2) knowledge. The effect of this is that what counts as knowledge in academic work is brought into question when academics consider and engage with new knowledge forms (ibid). The implications of this argument for the working knowledge of academics is that the knowledge base underpinning academic expertise is changing and will continue to change; what counts as knowledge that informs professional practice is increasingly subject to contestation.

Organisational learning

A third argument made in the literature about the new epistemological formations of knowledge is the importance of the organisational context in shaping work behaviours

and identities. The argument is that the globalised economy requires the production of knowledge with high use value. In this literature, organisations including universities are positioned as the sites of 'new' knowledge production and work is the process by which it is achieved. Workers generate knowledge, but they are also understood as learners (Senge 1992, Castells 1996, Gibbons 1994, Luke 1996, Gee 1996, Billett 2000). Concepts such as the 'learning organisation', (Senge 1994), 'learning in the workplace' (Marsick and Watkins 1990), 'work based learning' (Boud 1997) and 'informal learning' (Garrick 1997) support the idea of working knowledge as generated in organisations. These concepts utilise situated learning theory (for example, Brown and Duguid 1991, Lave and Wenger 1991), which reflects 'a view of knowledge as social construction, putting knowledge back into the contexts in which it has meaning' (Brown and Duguid 1991, p175). In this framework, the socio-political context of the organisation rather than factors controlled by the individual is understood as shaping work behaviours and thus identities (Hall 1996). This, it is argued, can have consequences for workers as the focus on the production of knowledge to meet the needs of the organisation rather than its workers (Usher 2000). The implication of the discourse/identity connection identified in this literature is that what counts as knowledge for academics arises from new definitions of knowledge.

What counts as knowledge for academics is linked in these arguments to institutional discourses that support universities to respond to external demands for accountability and productivity. It is argued that because performance and productivity are linked to funding, academics are increasingly subject to discourses that support reporting and accountability (Boud & Solomon 2001). Audit and quality assurance discourses are held to support the demands for productivity and performance, with the result that 'much practice in the academy is subject to more accountability and audit' (Power 1997) — 'much of it conducted under the rubric of quality assurance.'(Symes 2000, p209). New practices associated with WBL are understood as the product of these discourses; this is because WBL 'requires an articulation of exactly what knowledge universities produce and how well they produce it.' (Boud & Solomon 2001, p27). Although the measurement of performance under the quality rubric may at first glance appear to be contrary to the concept of academic freedom, it is argued in the WBL literature that in fact such processes can support the adoption of innovative practices (Winter 2001,

Stephenson 2001, Symes 2000). The argument is that the quality discourse can be reworked by academics in the university context to accommodate existing academic discourses. Winter, for example, argues that systems for monitoring learning outcomes and assessment protocols can be absorbed into academic practice — especially practices associated with innovations such as WBL (Winter 2001, p163). The link between these discourses, the adoption of new practices and academic identities is identified and problematised in this literature.

The key issue posing a problem in relation to academic identities and discourses that drive the adoption of new practices is identity confusion and its link to understanding and adopting different knowledge codes. The WBL literature identifies a link between knowledge and practice. The argument is that academic identities are traditionally 'constructed by disciplinary practices associated with expertise in knowledge and curriculum structures' whereas WBL processes construct identities with expertise in Mode 2 knowledge and curriculum processes (Boud & Solomon 2001, p30). WBL therefore challenges academics because the adoption of new practices requires them to put discipline knowledge aside (if not to abandon it) in favour of new ways of understanding knowledge as transdisciplinary and socially distributed (Symes & McIntyre 2000, Boud & Solomon 2001, Chappell et al 2000). In this argument, new practices focus on 'curriculum ownership and the balance of power and control' with the result that academics feel 'de-skilled' if not 'de-schooled' for the new roles that such practices require (Boud & Solomon 2001, p31). This sense of unpreparedness for the challenges that new practices offer is acknowledged in these arguments. For example, arguments made by academics against WBL curricula can be read as 'sites of resistance which aim to foreground more familiar conventional kinds of knowledge' in their everyday practices (Boud & Solomon 2001, p28). WBL, it is acknowledged, 'disturbs most of the conventional binaries that have framed our academic work, including: organisational learning and university learning; performance outcomes and learning outcomes; organisational discourses and academic discourses; theory and practice; and disciplinary knowledge and workplace knowledge.' (Boud & Solomon 2001, p225). Nevertheless, it is argued that the challenges to academic knowledge codes and identity construction are not limited to WBL but are part of a wider trend that locates knowledge production and learning outside of the academy (ibid, McIntyre & Symes 2000). The

implication of this argument is that the knowledge underpinning the everyday work of academics is challenged irrespective of the institutional context of work.

Summary

The changing epistemological foundations of knowledge are identified in this literature as the driver for changing work in contemporary academic practice. Academic practice is located within this literature as subject to change and redefinition as new knowledge forms, defined by their use-value, are established in the academy. The working knowledge of academics — knowledge that academics put to work — emerges from this literature as a touchstone to understanding how these new forms are being understood in the academy. Adoption of these, it is suggested, will be uneven.

Part 2: Academic practice literature

In this part of the review, I examine what is known about contemporary academic practice in light of the work identified above. The literature dealing with the new epistemological foundations of knowledge above is largely theoretical and propositional, while the literature about academic practice examined in this section has a narrower focus and is often empirically based. This is diverse literature that addresses a range of topics including academic roles, careers, workloads, professionalism, development and female academics (Tight 2003, p157–161).

The term ‘academic practice’ is typically understood in this literature as involving teaching, research and a third area of activity commonly described as ‘service’. This third area can include a range of other activities and it is often described as what is left over after teaching and research are undertaken. These three areas of activity are commonly described as ‘core’ to academic work, with a strong emphasis on teaching and research as the main ‘core’ activities. Teaching and research are understood as the focus of work, but the disciplines are the context in which these core activities are conducted (Becher & Kogan 1992, Becher 1989, Cuthbert 1996). These definitions also include understandings about the role of universities in the production and dissemination of knowledge and the work of academics to achieve this through teaching and research. A strong underpinning theme in this literature is that academic practice is

changing due to the effects of multiple forces on the modes and conditions of academic work.

There is growing interest in the concept of academic practice in response to external factors influencing the conduct of academic work. A recent and influential focus for investigations into the concept of academic work is a Centre of Excellence for Preparing for Academic Practice (CEPAP) funded through the Higher Education Funding Council (HEFC) in the United Kingdom. Academic practice is seen by this group as the framework in which institutional policies and processes that support professional development of staff can be enacted (Hopwood & McAlpine 2007). Hopwood and McAlpine argued that there are 'multiple representations of academic practice' and that there are many 'socio historical traditions — ways of working' (ibid, p1).

Academic practice 'can be understood as nested context: at the centre becoming and established academics are nested within a departmental/disciplinary context, itself nested in an institutional context which is in turn nested within a societal /international context' (ibid). These contexts, Hopwood and McAlpine claimed, influence the three aspects of practice — which they define as forms of inquiry, forms of teaching and forms of service — in different ways. They go on to argue that, at its core, academic practice is about the ways that these three aspects of work are undertaken and that it has two broad dimensions: 'consisting of:

- day-to-day engagement in inquiry, teaching and service, as well as
- (ii) more strategic planning and decision making related to these' (Hopwood & McAlpine, 2007, p3).

Hopwood & McAlpine argued that there is variation in the ways that the inquiry, teaching and service aspects are engaged across these dimensions. This variation is the result of a range of factors including individual experiences, histories and understandings of work. Academic practice is therefore interpreted in this work as complex, variable and contingent on multiple factors at the systemic, institutional and individual levels. The complex and contingent nature of academic practice identified in this recent work is explored below.

Knowledge and practice

The first and most prevalent argument made in relation to academic practice is that it has changed dramatically over the past 15-20 years and that the changes have resulted in a shift of focus in daily work from teaching and research to administration. It is argued that as a result of the corporatisation of universities in response to external pressures arising from globalisation, universities are now subject to external audit and accountability measures (Henkel 1997, Houston *et al* 2006). This development produced managerialist cultures in universities that are at odds with academic cultures and which have increasingly displaced teaching and research as the focus of academic work in universities (Coldrake & Stedman 1999, Barnett 2000). The argument is that academic work since the mid-1990s has intensified because of growth in work associated with institutional administration and governance arising from increasing pressure on universities to respond to quality assurance issues and manage risk (Henkel 1997, Houston *et al* 2006). These authors claimed that the core aspects of teaching and research were being displaced by rapidly increasing non-core work. This trend towards the expansion of non-core work is found in the work of many Australian academics (McInnis 1996, 2000a, 2000b,Taylor *et al* 1999, Harman 2001, 2002, 2003 and Churchman 2006). For example, longitudinal studies of academic activities in Australia from the early 1970s (McInnis 1996) found that, although teaching and research were still the main foci of work, they were seen as increasingly undermined by intrusions from the non-core and moreover, that these intrusions were expected to continue and accelerate (McInnis 2000). The intrusion of non-core work is identified in these arguments as a critical factor in the diversification of academic roles, fragmentation of academic workloads and role stress (Henkel 1997; McInnis 2000; Harman 2003, Houston *et al* 2006). The implication of this argument is that non-core work associated with institutional administration is a permanent feature of academic work and influences academic practice.

The influence of non-core work on academic practice is linked in these arguments to the role of disciplinary knowledge in academic work. The argument is that as a result of the 'audit explosion' in universities (Strathern 1997), 'the craft knowledge of academics is being reshaped by administrative interventions that work to achieve fair and efficient institutional practice' (McWilliam 2004, p156). This reshaping of discipline-based

knowledge is understood as a fundamental shift in 'ideas about the nature of knowledge' (Brew 1999, p291), which affects the ways that the relationship between teaching and research are experienced by academics in their daily work (Brew 1999, p291). In these arguments administration knowledge is linked to the notion of performativity in teaching and research (Castel 1991, McWilliam 1999, 2004, Marginson 2000); therefore academics need more than discipline knowledge to work as academics: 'what really counts in the self-auditing university is the degree of intimacy an academic has with the record' (McWilliam 2004, p159). Churchman (2006) found that academics experience their work as a 'compromise' between corporate and traditional values and understandings of knowledge and academic work itself (ibid, p8). She found 'differences in the levels and nature of compromise.' representing different ways that academics incorporated administrative functions into their day-to-day work practices. Churchman concluded that the academic workforce should be understood as heterogeneous, and there are 'many ways of being an academic' (ibid, p14). The heterogeneous nature of the academic work force — identified as a consequence of the inclusion of non-core work in daily practice — can be interpreted as representing multiple practices.

Multiple practices

A second argument about academic practice is that teaching and research practices are influenced by the emergence of new academic roles in the increasingly heterogeneous academic workforce. In this argument, new roles have caused a crisis in traditional academic practices because academic functions are subsumed to the needs of the institution and the building of corporate identities (Marginson 2000). The new roles are understood as emerging to meet the expanding demands on institutions for quality assurance and reporting activities (Kogan *et al* 1994, McInnis 1992, 1996, 2000a, 2000b, 2000c, Winter 1995, Blaxter et al 1998, Morey 2004). Roles for 'academic managers' as well as part-time and permanent teaching-only and research-only roles have contributed to the disaggregation of work around specific functions (Winter 1995, Jones 2006). It is argued, for example, that it is possible to focus entirely on 'service' or administration and governance in academic work as a result of institutional reporting needs (Greenbank 2006).

There is agreement that new roles emerging to accommodate institutional systems and processes are accelerating the polarisation of work practices around either teaching or research (Blaxter et al 1998a, 1988b, Taylor 1998, Young 2006). The argument made is that teaching and research practices are heavily influenced by funding and other factors at the systems and institutional levels (Young 2006, Jenkins et al 2004). In these systems, there are many disincentives to engage in teaching practices, with the result that there is now a differential between teaching and research in favour of research (Young 2006, Jenkins *et al* 2004). For example, Young (2006) found in an investigation of academics' perceptions of the status of teaching, that it was 'accorded low status, with rewards of tenure and promotion accruing to research or administration' because of funding incentives that support research practices (ibid, p191). Time allocated to teaching and research practices are therefore significantly different in the day-to-day work of academics (Henkel 1997, Gottlieb and Keith 1997, Henkel 1997, Harman 2000, Houston et al 2006).

Multiple studies show that research-orientated academics make time for research because they see the connection between it and teaching, whilst teaching-orientated academics find it hard to make time for research because the connection between teaching and research is not recognised (Gottlieb & Keith 1997, Henkel 1997, Harman 2000, 2001, McInnis 2000a). An Australian study in 1999, found that 28 per cent of surveyed academics were research-orientated, 26 per cent teaching-orientated with no interest in research, and the rest (46 per cent) teaching-orientated, with some research-orientation because it was required (McInnis 2000). Research and teaching are therefore understood differently and emphasised in different ways by academics (Gottlieb & Keith 1997, Henkel 1997, Harman 2000, 2001). The studies also show that irrespective of orientation, academics experience stress in their day-to-day work because of competing demands for their time and energies. This work-related stress is connected to the creation of new roles arising from the polarisation of teaching and research (Staniforth 1999, Martin 2000, Marginson 2000). The idea of role stress is therefore linked to new practices rising from the polarisation of teaching and research in academic practice.

The idea of role stress is linked in these arguments to growing debate about the professional status of academics. The emergence of multiple roles and hence new ways of working has raised questions about whether academics are one profession, multiple professions or not a profession at all (Nixon *et al* 2001, Gould 2006). The key argument is that the creation of specialised roles brings the idea of academic practice as comprising the integration of teaching and research into contestation (Halsey 1992, Winter 1995, Rowland 2002, Nixon 2006). In this argument, teaching and research are 'fragmented': 'The perception of teaching and research as separate functions, driven by separate reward structures, undermines the coherence of academic practice' (Rowland 2002, p59). This fragmentation has led to the construction of the academic workforce as 'a plurality of occupational groups divided by task, influence and seniority' (Nixon *et al* 2001, p232). It is argued that the preconditions for a shared set of values and expectations that underpin professional practice do not exist or are disintegrating (ibid, Beck *et al* 2005).

Shared values and expectation are linked in these arguments to new concepts of knowledge and their impact on academics and their work. Beck argues that market forces and government regulation, have 'genericised' the knowledge structures underpinning all professional work, including the work of academics, and brought the idea of professional autonomy and authority into question (Beck *et al* 2005). In this argument, the structure of disciplinary knowledge is fundamentally changed in favour of 'generic' knowledge modes that undermine existing discipline knowledge structures (ibid). In addition, it is claimed that discipline knowledge is increasingly shaped through institutional organisational models that support the production of knowledge that is useful to institutional needs (Marginson 1997, Nixon et al 2001, Gould 2006). The conditions of work in the institutional context are therefore understood as the key mechanism by which 'marketable' knowledge is produced. The argument is that these conditions have resulted in shifting relationships between teaching, research and service, with a growing emphasis on the service aspect of work (Greenbank 2006, Hodgson 2007, Karlsson 2007).

A recent argument in this literature is that service should have the same status as teaching and research through its incorporation as a scholarly activity (Greenbank 2006,

Karlsson 2007). As early as 1998, Blaxter et al argued for the addition of 'writing and networking' to the 'triumvirate of teaching, research and service' because of expanding demands for different work outputs (Blaxter et al 1998). As a consequence of the realignment of teaching and research it is argued that 'academics are struggling to hold on to values and conceptions of professional practice that are traditionally held to depend on pre-modern forms of governance and organisation' (Henkel 1997, p134). Arguments for new conceptualisations of professionalism therefore include consideration of varying academic roles and functions that are emerging as a consequence of factors influencing work in the institutional context (Henkel 1997, Marginson 2000, Nixon 2001, Gould 2006, Greenbank 2006, Churchman 2006, Hodgson 2007, Karlsson 2007). Institutional administrative systems and processes are increasingly acknowledged as influencing the conduct of work — especially teaching — and how academic performance in teaching and research can be measured (Hodgson & Whalley 2007). The implication of these arguments is that the context of academic work can be understood in terms of institutional and disciplinary frameworks, with the institutional context influential in shaping academic practice.

Institutional influences on practice

The influence of institutional factors on academic practice is the final argument examined here. A key assertion is that institutional policies define, organise and reward teaching and research outputs, and thus influence decisions academics make about these core activities in their work (Harley 2002, Stella &Woodhouse 2007). Institutional policies, it is claimed, are shaped by system and national-level policies that reward teaching and research activities. These policies aim to meet national standards and agendas and therefore influence academic work by defining what is to be measured and audited (Henkel 1997, 2005, Harris 2005). In this argument, institutional organisational cultures are understood as reactive to external pressures. Thus, emergent bureaucratic, corporate, enterprise and collegial cultures (McNay 1995), rather than 'traditional' hierarchical, collegial, anarchical and political institutional cultures (Becher 1989), explain new priorities and practices related to teaching and research (Sawbridge 1996).

Leadership styles and the university's mission in combination with external factors are understood to influence how organisational cultures are balanced and account for the

domination of usually one culture over others at the institutional level (ibid); however, local leadership and disciplinary cultures, it is argued, account for different organisational cultures within broader institutional cultures. Thus, although the long-term impact of external policy requirements is a realignment of power from the department as the traditional site of disciplinary culture to the institution, disciplinary cultures within departments continue to mediate institutional influences (Henkel 2005). Different organisational cultures within departments are therefore seen to account for different research cultures and pedagogical approaches within institutions (Jenkins 2003, Durning & Jenkins 2005). These cultures are understood as highly influential in shaping how teaching and research practices are organised and prioritised in response to institutional policies (Becher 1989, McNay 1996, Sawbridge 1996). Indeed, departments are identified in several discussions as the sites of professional formation and development (Knight *et al* 2006) and the most influential factor in identity formation for academics (Boud 1999) because of their impact on how teaching and research are understood and integrated in everyday practice.

The institutional context is also identified as a significant factor in reshaping academic identities in contemporary universities. The argument is that institutional discursive environments increasingly construct new identities. In this argument, managerialist values reshape teaching and research practices through the influence of performative discourses, and thus influence the formation of academic identities (Henkel 1997, 2000, 2005, Hartley 2002, McWilliam 2004). Managerialist-led organisational cultures, it is asserted, are unable to support academic identities as they are currently understood (Clegg 2008, Archer 2008, Churchman 2006, Harris 2005, Henkel 2002, 2005). This is because managerialist discourses force academics to make adjustments to their practice. Churchman for example, found that academics make 'diverse attempts … to reconcile preconceptions of academia with experiences of working in a corporatised university, resulting in differences in levels and nature of compromise' (Churchman 2006, p3). This culture thus 'mitigates against the achievement of secure or stable academic identities' (Archer 2008, p401) and, it is argued, accounts for the emergence of alternative academic identities alongside 'traditional' ones (Kogan 2000, Harris 2005, Churchman 2006, Clegg 2008, Archer 2008). The institution itself is understood in this

argument as the principal site of contestation about 'what constitutes academic work and what it means (or what it should mean) to be an academic' (Archer 2008, p401).

Institutional discourses are therefore highly influential in shaping identities. Archer for example found that institutional discourses shape 'who can "be" authentic/successful' as an academic, with younger and culturally diverse groups often refused 'successful' and 'authentic' identities through these processes (Archer 2008, p401). Nevertheless, there is strong evidence that discipline cultures continue to shape academic identities, and emerging identities in particular (Kogan 2000, Harris 2005, Churchman 2006, Clegg 2008, Archer 2008, Remmik et al 2011). These emerging academic identities are, it is claimed, to be an expression of discipline-based values underpinned by the concept of academic autonomy. Clegg (2008) found that 'despite all the pressure of perfomativity, individuals have created spaces for the exercise of principled personal autonomy and agency' (Clegg 2008, p343). These identities it is argued, 'cannot be read off from descriptions of teaching, research, or management roles' (ibid, p343). Thus the disciplines, as 'the key communities in which individual academics have built their identities', are recognised as a continuing site for identity formation and maintenance despite the rise of institutional discourses (Henkel 2005, p158).

The proliferation of multiple identities in institutions is therefore increasingly viewed as a positive development because it signals a reinterpretation of traditional values (Churchman 2006, Archer 2008, Clegg 2008, Kligyte 2011). This variability of identities and experiences in their construction within the institutional context are perceived as evidence of a reinvigoration of academia in response to new institutional conditions of work (Archer 2008, Clegg 2008). Thus, although it is recognised that identity construction is experienced as a process of 'compromise' (Churchman 2006) and conflict (Archer 2008), it is also increasingly interpreted as evidence of how academic values are being reasserted (Archer 2008, Clegg 2008).

Despite broad agreement that emergent identities represent a reinterpretation of traditional academic values, how this occurs for academics is still not fully understood. Churchman for example, identified three clusters in her study ranging from those who held highly 'traditional' beliefs and values to those who were aligned with corporate

values and were least aligned to traditional values. She argues that future research must be premised on 'recognition of the variable internal factors in universities' and their impact on how academics negotiate new identities (Churchman 2005, p14). From a different perspective, Clegg suggests that 'less traditional universities and areas of course provision and research might be important sites to investigate in relation to academic identity' (Clegg 2008, p341) on the basis of data collected in an institution with a strong corporatised organisational culture that supported new teaching and research practices. In this institution, Clegg reported the emergence of alternative identities that were a response to institutional demands, yet were also underpinned by 'traditional' values of autonomy and criticality. Further, work in this direction 'is an important element in theorising what is happening inside the university sector' (Clegg 2008, p343). These arguments point to a link between organisational cultures and structures, the ways that academics work with or against them, and academic identities.

Academic development

Understanding the connections between organisational cultures and structures and how academic identities are built by working within them is identified as a critical aspect of contemporary educational development practice. It is argued that educational developers require strong knowledge of institutional organisational cultures so that they can work effectively (Land 2001, 2004, Rowland 2002, Knight 2006, Blackmore & Blackwell 2006, Brew 2007, Laksov 2008, Kligyte 2011, Mathieson 2011). This is because educational development is increasingly positioned as 'strategic' to the achievement of institutional objectives within the increasingly performative environment of higher education (Gosling 2001, Blackmore & Blackwell 2006, Brew 2007, Taylor 2010).

Educational development practice is understood as a field 'experiencing a complex shift from a non-formal and minimally codified space of craft practice into a policy and practice mainstream' that is fraught with tensions and contradiction (Lee & McWilliam 2008). It is a 'hybrid activity' in which educational developers 'are neither faculty academics nor academic managers, but occupy the middle ground' (Brew 2008). Educational development practice is therefore most commonly experienced as a process of balancing 'requirements to support faculty academics in their development while at the same time meeting institutional accountability requirements' (Brew 2002). It is an

'elastic practice' (Carew et al 2008), that now has 'many paths' (Brand 2007) and practice requires the capacity to 'work with contradiction' (Peseta & Grant, 2011). Because of multiple demands, it is itself in danger of fragmentation as a field without anything to 'profess' (Peseta 2011).

It is argued that to balance competing demands, educational developers need to understand the organisational cultures in which they work as well as their own identities and orientations to practise in relation to these cultures (Land 2001, Manathunga 2006, 2007, Peseta 2005, 2007, Healy 2012, Bamber & Anderson 2012). A recent argument stresses the importance of knowing about the influence of organisational cultures on identity construction and of the diversity of identities within any institutional context (Laksov 2007; Delanty 2008, Khan 2009, Crawford 2010, Sutherland & Taylor 2011). Thus, more sophisticated approaches based on understandings about the construction of discursive environments through institutional cultures, their impact on identity construction, the nature of work in the organisation, and understandings about knowledge itself are increasingly advocated for educational development practice (Rowland 2002, Gray & Radloff 2006, McAlpine, Blackmore 2006, Knight 2000, 2006, Brand 2007, Lee 2008, Grant 2009, Taylor 2010). For example, as early as 2002, McWilliam argued from within a Foucauldian framework that 'a theoretical understanding of the nature of knowledge, power and subjectivity' is essential for educational development because this work contributes to what counts as knowledge in the institutional setting and is thus 'neither innocent nor neutral' (McWilliam 2002 p290). This argument, in different forms, continues to be put (see for example, Gray & Radloff 2008, Brew & Peseta 2008, Taylor 2010, Mathieson 2011).

Consequently, arguments for work-based learning approaches to educational and academic development point to a growing interest in understanding how academics interact with the institutional context in their day-to-day work (Hodkinson 2005, Trowler & Bamber 2005, Knight 2006, Knight *et al* 2006, Warhurst 2008, Boyd 2010). For example, Warhurst (Warhurst 2008) used situated learning theory to explore how learning about practice occurs for new lecturers, while Knight (2006) and Knight *et al* (2006) apply Engestrom's (2001) Activity Systems Theory and Eraut's (2004) professional learning theories to the informal learning of part-time tutors.

The implications of these arguments are that educational development can be understood as an institutional factor influencing academic practice.

Summary

The key issues identified in the literature investigating academic practice are related to the interaction between teaching and research and the increasing influence of institutional administration in these activities. These studies identify that there are multiple experiences of work for academics and there are many ways that academics are adapting to changing conditions of work in the institutional context. The key aspects of academic work — teaching, research and administration — are recognised as in a state of flux a result of these changes. The institutional context, and factors including institutional educational development, is understood as influential in shaping what academics know and how they use it.

Part 3: Conceptions of teaching literature

Introduction

Whilst the working knowledge and academic practice literatures focus on social, economic and political systems to describe and explain the organisation of academic work, another body of work concentrates on the lived experiences of academics and thus offers a different perspective on their working knowledge. This body of work focuses on human experiences of systems and processes rather than the systems and processes themselves. These are therefore 'second order' perspectives of systems and processes. The literatures reviewed above offer many 'first order' perspectives on social, economic and political systems influencing the organisation of work, including academic work. From these, it is possible to gain good understandings about key trends, conditions and processes influencing the structure contemporary work and how it is theorised. 'Second order' perspectives from these literatures are however, almost non-existent.

The notable exceptions are studies that explore relationships between discursive environments and identity found in the working knowledge and academic practice literatures. Studies by Boyd (2010), Clegg (2008), Archer (2008), Churchman (2006) able and McWilliam (2002, 2004) cited above, focus on academics' experiences by

using discourse analysis or ethnographic approaches to theorise academic identities. They are from the same tradition of studies — cited in the earlier review of the working knowledge literature — that frame experience of work in terms of the embodied self and discursive work that organisations do on shaping identities. Thus the work of Chappell et al (2000), Billett (2000) and Hager (2000) theorised how learning and work are connected by focusing on the relationship between the discursive environment, work behaviours and identity.

Despite this focus on the discourse/identity nexus in both literatures, there is recognition that more works needs to be done to understand how this nexus is experienced in specific contexts. In the case of academics, the discussion is often framed in terms of the relationship between teaching and research and how these are brought together in day-to-day work (Gottlieb et al 1997, McInnis 1999, 2000, Winter et al 2000, Harman 2003, Henkel 2005, Houston 2006, Taylor 2007). The recent works by Clegg, Archer, Churchman and McWilliam cited above, which focus in various ways on the lived experiences of academics in specific institutional contexts, argue for more detailed and descriptive investigations of academics' experiences of their work. In this argument, dominant accounts of the academy currently exclude consideration of the affective embodied self and thus do not give a full picture of what is happening inside the sector. Thus, second order studies that pay attention to how changes are experienced can, it is contended, support efforts to theorise what is happening in the sector as well as guarding against 'over simple derivations that might be seen as global trends.' (Clegg 2008, p343).

The body of work arising from this literature investigates the meanings given to phenomena as experienced by a given population in a given context. S Phenomenography investigates the meanings given to phenomena as experienced by a given population in a given context. Specifically, this body of work includes a strand that investigates the phenomena of teaching and learning and research as experienced by academics in different populations and different institutional contexts. This broader conceptions literature and the sub-set of phenomenography stands in contrast to the working knowledge and academic practice literatures cited above because it offers only second order perspectives on aspects of work. Phenomenography focuses on the

variations in meanings of the phenomenon of teaching and learning and research experienced by academics. Thus unlike the first order perspectives offered by the literatures surveyed above, the broad conceptions literature pays attention to how key aspects of academic work are experienced by academics in ways similar to those suggested by Clegg and other quoted above. The implication of this is argument is that the conceptions literature focused on academics' experiences of aspects of their work should be the subject of intensive analysis in this review.

In the next section I undertake an intensive analysis of selected recent studies that describe academics' conceptions of the teaching, learning and research. These studies:

- are recent, (dating from 2006);
- reflect current directions in research into academics' experiences of aspects of work;
- are capable of commenting on a number of facets simultaneously;
- comment directly and indirectly on issues related to the everyday experiences of academics; and
- draw on seminal conceptions research that is well cited in the phenomenographic and broader conceptions literature.

Background to Selected studies

Academics' conceptions of teaching and learning

Seminal studies investigating academics' conceptions of teaching and learning were undertaken by researchers from the early 1980s following the work of Marton & Saljo (1984) investigating students' conceptions of learning. In this work, Saljo reported five qualitatively different ways that students understood learning, these being, learning as;

1) a qualitative increase in knowledge;
2) memorising;
3) the acquisition of facts, methods and strategies;
4) the abstraction of meaning; and
5) an interpretive process (Saljo 1979, Marton & Saljo 1984).

This work continued with the identification of another conception of learning by Marton et al in 1993, this being;

6) (6) learning as changing as a person.

The argument made with regard to these conceptions is that the first three are focused on the quantitative increase of knowledge through processes such as memorising and therefore pose limitations for students on their learning. Students holding these conceptions, it is claimed, are unable to adopt approaches to learning that support concept development or 'deep' learning. Alternatively, students who hold conceptions of learning as an interpretive process, it is asserted, are not likely to adopt 'surface' approaches to their learning — their learning will be 'deep'. In the early 1990s several interrelated studies explored, from phenomenographic and the broader conceptions perspective, the deep and surface proposition. They argued that these approaches were related to student learning outcomes (Prosser & Millar 1998, Trigwell & Prosser 1999), students' perceptions of the learning context (Ramsden 1992) and, most frequently, teachers' conceptions of teaching (Dall 'Alba 1990; Samuelowicz & Bain 1992; Kember & Gow 1994; Prosser et al 1994; Trigwell et al 1994; Trigwell & Prosser 1999).

Teachers' conceptions, it was argued, have the most influence on the adoption of students' learning approaches. These conceptions, found to be remarkably consistent over multiple studies, investigating academics' conceptions from phenomenographic and other perspectives, range from conceptions of teaching as transmission to teaching as conceptual change (Samuelowicz & Bain 1992, 2001). The findings of a study by Prosser et al (1994), for example, outline conceptions of teaching typically found in these studies, these being, teaching as:

a) transmitting concepts of the syllabus;

b) transmitting the teacher's knowledge;

c) helping students to acquire concepts of the syllabus;

d) helping students to acquire the teacher's knowledge;

e) helping to develop conceptions; and

f) helping students to change conceptions.

The argument made by Prosser et al from a phenomenographic perspective is that the first four conceptions focus on transmission of information as the means of quantitatively increasing knowledge and that this (transmission) encourages students to adopt a 'surface' approach to learning which, it is argued, lead to negative student outcomes because concepts are not learned. In this approach, teachers rather than students control what is taught. The last two conceptions however, lead to positive learning outcomes because students are encouraged to adopt 'deep' approaches to learning that generate knowledge.

Conceptions of teaching in this and other arguments made in studies investigating teachers' conceptions of teaching are thus linked to teachers' understandings about learning and in particular the distinction between 'deep' and 'surface' approaches that students adopt in their learning. In this perspective, conceptions of learning, approaches to learning, and conceptions of teaching are related to student learning outcomes. Thus, conceptions of teaching that encourage 'deep' approaches are understood as student-focused, and those that encourage the adoption of 'surface' approaches, as teacher-focused.

Academics' approaches to teaching

Conceptions of teaching are also understood in this literature as related to approaches adopted by teachers in their teaching. Work on the relations between teachers' conceptions and their approaches to teaching makes the argument that conceptions of teaching and conceptions of learning are internally related. In this argument, in approaches to teaching, conceptions of learning inform intentions — or what is to be achieved in teaching. These are related to conceptions of teaching that inform strategies for teaching — or how it is to be achieved (Trigwell, Prosser & Taylor, 1994, Prosser & Trigwell 1996, Trigwell & Prosser 1999). Five approaches to teaching described by Trigwell & Prosser (1999), for example, were identified from combinations of four intentions and strategies amongst a group of 24 teachers of first-year undergraduate physics and chemistry courses. These combinations, they contended, constituted approaches to teaching that were teacher-focused at one end of the spectrum, student-focused at the other and 'interactive' between these, as identified below:

a) teacher-focused strategy with the intention of transmitting information to students;

b) teacher-focused strategy with the intention that students acquire the concepts of the discipline;

c) teacher/student interaction strategy with the intention that students acquire the concepts of the discipline;

d) student-focused strategy aimed as students developing their conceptions; and

e) student-focused strategy aimed at students changing their conceptions.

(Trigwell & Prosser, 1999, p78).

Understanding the nature of the intentions underpinning teaching strategies was identified from this work as critical to understanding approaches adopted by teachers as a means of supporting them to change from teacher-focused approaches. Subsequent non-phenomenograpic studies into approaches to teaching clarified the intentions identified in initial work above, including intentions underpinning the teacher/student interaction strategy (c above). For example, arguments that (c) above bridged teacher-focused and student-focused approaches and were thus ‘transitional’ (Kember 1997a) were revised following investigations that found no empirical evidence for this (Samuelowicz & Bain 2001). That is, the same intentions — to transmit information — were identified underpinning teacher-focused and teacher/student interaction approaches, as indicated below.

Table 2.1 Teacher-focused and teacher/student interaction approaches

Strategy ('how')	Intention ('what')	Approach
(1) transmitting information	(1) accumulation of information	**A:** teacher-focused, acquiring information
(2) helping students acquire concepts of the discipline	(2) acquire concepts of the discipline	**B:** teacher-focused, acquiring discipline concepts **C:** teacher/student interaction**,** acquiring discipline concepts
(3) developing students' conceptions	(3) develop conceptions	**D:** student**-**focused**,** developing conceptions
(4) changing students' conceptions	(4) change conceptions	**E:** student**-**focused**,** changing conceptions

Ongoing from phenomenographic and non phenomenographic perspectives work on intentions underpinning approaches confirms initial arguments that these are context-dependent (Samuelowicz & Bain 1992). For example, these studies identify that approaches to teaching are influenced by academics' perceptions of factors in the immediate context (Prosser & Trigwell 1997), disciplinary orientations (Lindblom-Ylaane et al 2006) and academic leadership (Ramsden et al 2007), and are thus dynamic rather than stable. The dynamic nature of approaches to teaching emerging from this work thus suggests that the context of academics' work is worthy of investigation and analysis.

Selected studies

The studies selected for analysis in this section have their origins in foundational work investigating teacher's conceptions of and approaches to teaching and students' conceptions of and approaches to learning, described briefly above. These are a selection of recent studies in the field of conceptions research relevant to the topic of academics' working knowledge. Each reports investigations into academics' conceptions of and approaches to teaching and research, and thus comments directly or indirectly on the context of this aspect of work and their perceptions of it.

As identified in Table 2.2, each of the selected studies takes up and extends arguments developed over the past 20 years in conceptions research into the nature of academics' approaches to their teaching. These arguments include consideration of approaches to teaching in relation to:

- discipline influences on teaching (Lueddeke 2003);
- experiences of change and influence of training programs (Mckenzie 2002, Ho et al 2001, Dall 'Alba 2005);
- perceptions of factors in the teaching context (Prosser & Trigwell 1999, Samuelowicz & Bain 2001);
- being a teacher (Akerlind 2003, 2004);
- experiences of subject matter (Martin 2001, Trigwell & Ashwin 2003, Trigwell et al 2005);
- dissonance in teaching (Prosser et al 2003, Martin & Lueckenhausen 2005);
- perceptions of leadership (Martin *et al* 2003, Ramsden et al 2007);
- conceptions of research (Brew 2001, Ingerman 2003, Ingerman & Booth 2003, Bruce *et al* 2004, Bowden *et al* 2005); and
- the relationship between teaching and research (Robertson & Bond 2001, Brew 1999, 2003).

These arguments are addressed and extended in the selected studies which investigate relations between approaches to teaching and:

- concept of dissonance and consonance (Postareff et al 2008);
- discipline and contextual factors (Lindblom-Ylanne et al 2006);
- changing teaching (Light and Calkins, 2008);
- growth and development as a teacher (Akerlind 2007);
- being a teacher (Akerlind 2007);
- approaches to research (Akerlind 2008); and
- conceptions of subject matter in teaching and research (Prosser et al, 2008).

These build on arguments made in prior conceptual studies about the nature of approaches to teaching. On one hand approaches to teaching are understood as subject to contextual influences and dynamic (Trigwell & Prosser 1996; Prosser & Trigwell 1999; Samuelowicz & Bain 2001; Akerlind 2003) on the other, they are understood as stable because they are not changed by factors in the immediate environment (Kember 1997, 2002).

The argument for dynamism has gained momentum through phenomenographic studies that relate approaches to teaching to academics' perceptions of factors in the teaching context such as class size, workloads and the level of study (Trigwell & Prosser 1996; Prosser & Trigwell 1997; Prosser & Trigwell 1999). These studies identify, however, that student-centred conceptions are associated with dynamism and change, whereas teacher-centred approaches appear to restrict or possibly negate it (Prosser &Trigwell 1999; Akerlind 2003). Thus, it is argued, academic development should focus on shifting academics' approaches to teaching towards student-centred approaches by addressing their perceptions of factors in the immediate context (ibid). The selected studies therefore address arguments about the focus of academic development as well as the relationship between academics' approaches to teaching and their perceptions of factors in the immediate context influencing it.

Study 1: Lindblom-Ylanne et al 2006, *How approaches to teaching are affected by discipline and teaching context*. Studies in Higher Education, Volume 31, Issue 3, June 2006, pages 285–298

Lindblom-Ylanne et al asserted that disciplines and factors in the teaching context influence the adoption of approaches to teaching, thus showing that approaches to teaching are dynamic rather than stable. The non-phenomenographic study was a two-part investigation into the role of disciplines on one hand and the effects of context on the adoption of approaches to teaching on the other.

Two versions of the Approaches to Teaching Inventory (ATI) developed from the qualitatively different conceptions of teaching (Trigwell & Prosser 1994) were used to collect data from 303 academics. The earlier version was used to measure effects of factors in the immediate context on approaches to teaching, while the later version, which included items exploring motivational aspects of teaching and regulation strategies, was used to determine discipline influences on these (Trigwell et al 2004).

Comparisons between approaches to teaching adopted in usual and unusual teaching contexts found systematic variation across disciplines and teaching contexts. Differences between AIT scores for usual and unusual teaching contexts identified that usual teaching contexts were more likely to be teacher focused and unusual contexts to be student focused. This, it was argued, provided evidence that approaches to teaching are related to academics' perceptions of factors in the teaching context, which in turn are influenced by discipline orientation. Thus, the same teacher could adopt different approaches in different teaching contexts according to underlying disciplinary orientation and whether contexts are perceived as usual or unusual. They reasoned that academics make decisions to adopt teacher-centred approaches despite having understandings about student-centred teaching. However, analysis of disciplinary orientations identified a stronger association between the 'hard' disciplines and the adoption of teacher-centred approaches than the 'soft' disciplines.

There are three implications for the present study in Lindblom-Ylanne's findings.

First, academics appear to make strategic decisions in their everyday work based on understandings about what is possible in the institutional context, suggesting this (decision-making) is the product of working knowledge.

Second, working knowledge of teaching appears to include knowledge about factors in the immediate context that influence teaching, suggesting that knowledge of the institution itself is a dimension of working knowledge.

Third, the tacit dimension of this knowledge appears to be associated with decision-making about what is possible in the immediate context.

Study 2: Postareff et al 2008, *Consonance and dissonance in descriptions of teaching of university teachers,* Studies in Higher Education, Volume 33, Issue 1, February 2008, pages 49–61.

The second selected study by Postareff et al (2008) also suggests that academics adopt approaches to teaching in response to knowledge about what can be achieved in the immediate context. They concluded that approaches to teaching are typically neither uniformly teacher or student-centred in many academics' experiences of teaching, as suggested in early phenomenographic work that indicated that learner-centred intentions aligned with student-centred approaches and teacher-centred intentions aligned with teacher-centred approaches (for example, Trigwell & Prosser, 1999). This study of the teaching profiles of 97 academics using the ATI with reference to a typical or usual teaching context, found evidence of practices in which intentions and strategies for teaching were not aligned. Thus, for a significant number of academics in the study (approximately half), learner-centred intentions were combined with teacher-centred strategies/approaches, or teacher-centred intentions were combined with learner-centred strategies/ approaches. These combinations of unaligned or atypical intentions and strategies suggested dissonant practices arising from academics' perceptions of challenges in the immediate context.

Postareff et al identified that reasons for dissonant practice were associated with a lack of skills or knowledge to deal with challenges in the immediate context. These varied from an inability to meet challenges and a lack of motivation to do so in Type 1, to a lack of skills in Type 2, to a lack of skills, but intent to acquire them in Type 3. They suggest that 'a recent change in teaching strategies and some confusion associated with that change' could explain these practices, especially in relation to Types 1 and 2

(Postareff 2008, p59). In addition, a correlation between the 'hard' sciences and dissonant types suggested that academics' disciplines influenced how challenges were perceived. Thus, changing academics' perceptions of challenges in the immediate context and assisting them to develop skills and knowledge to meet these was identified as a means of addressing low quality student learning associated with dissonant practice. This, it is contended, implicates dissonant practice as the focus of academic development and identifies contextualised study approaches such as 'orchestrated learning' developed in student learning as its possible direction.

Postareff et al's findings have three implications for the present study.

First, academics' working knowledge of teaching appears to include conceptions of teacher-focused and student-focused learning and teaching that it put to use at different times in different contexts.

Second, the tacit dimension of this knowledge appears to include knowledge about how to apply disciplinary rules to usual and unusual teaching situations.

Third, working knowledge appears to be subject to development in relation to perceptions of the context and understandings about institutional requirements.

Study 3: Light and Calkins 2008, *The Experience of Faculty Development: Patterns of Variation in Conceptions of Teaching.* International Journal for Academic Development, Volume 13, Issue 1, pages 27–40

The third selected study by Light and Calkins (2008), also non –phenomenographic, suggests that the nature of tacit knowledge underpinning approaches to teaching influences academics' willingness to change their practice in response to challenges in the immediate context. The study investigated the impact of a year-long teaching development program on 22 participants by comparing shifts in their conceptions of teaching at its beginning and end. These conceptions, developed from approaches to teaching described by Prosser and Trigwell (1999), were categorised as three types: teacher-centred (Type 1), student-centred (Type 3) and combinations of these (Type 2).

The authors reported developmental shifts towards student-centred approaches in all categories. Nevertheless, they identified that understanding student-centred conceptions was complex and associated with more than theoretical knowledge: '[it] appears to require experiential awareness of, as opposed to simple knowledge of, what such learning as conceptual change means' (ibid, p12). This finding, they observed, confirmed shifts in practice reported in studies of academics' conceptions of the impact of similar teaching development programs (Ho et al 2001) and thus confirmed the view that it was difficult for academics to develop student-centred conceptions of teaching. However, they hypothesised that the complexity of the shift towards the adoption of these conceptions was because these were associated with academics' conceptions of academic practice itself.

Light and Calkin's argument was that types of conceptions of teaching are related to conceptions of academic practice and possibly academic identities. They argued that conceptions of teaching reflect understandings about student learning in teaching as well as academics' learning in research and these understandings may be expressed in academic identities. Thus for example, they suggested that unsophisticated teacher-focused conceptions of teaching would also identify unsophisticated understandings about academics' learning in research. These understandings would be logically connected to incomplete understandings of academic practice as the relationship between teaching and research would not be understood or identified, and experiences of academic practice would be therefore be 'fragmented'. These relationships, they suggest, could explain why shifts to student-focused conceptions of teaching were difficult to achieve. They concluded that the relationship between teaching and research is critical to the design of academic development programs because of these connections.

Three implications are identified in Light and Calkin's study for the present study.

First, the tacit dimension of working knowledge of teaching appears to include conceptions of academic practice and what it is to be an academic.

Second, conceptual change appears to be indicated as the primary focus of academic development.

Third, work-based experiential learning appears to be essential to the development of working knowledge (of which working knowledge of teaching is a part).

Turning now to the research aspect of academic work, three phenomenographic studies focusing on variation in academics' experiences of research and research-related phenomena are examined. The first study (Akerlind 2008), examined conceptions of being a researcher, while the others (Akerlind 2008, Prosser et al 2008) investigated academics' conceptions of research and research-related phenomena to explain the nature of the relationship between teaching and research. These studies explored evidence of types of knowledge in use in research, whether research is changing and whether there are institutional influences on research.

Study 4: Akerlind 2008a, *An academic perspective on research and being a researcher: an integration of the literature.* Studies in Higher Education, Volume 33, Issue 1, pages 17-31.

This study by Akerlind (2008) brought together what was known about academics' experiences of research in existing studies, using common themes in these to investigate 28 academics' experiences of carrying out research in an Australian university. This investigation concluded that academics' experiences of research are remarkably consistent across disciplines and institutions. The study found five dimensions of academics' understandings of the nature of research: intentions associated with who is affected by the research; outcomes associated with the anticipated impact of the research; questions associated with the nature of the object of study; processes associated with how the research is undertaken and, finally, feelings associated with an emotional dimension.

Four variations in experiences of being a researcher emerged from the study's integration of the dimensions listed above:

1) fulfilling academic requirements;

2) establishing oneself in the field;

3) developing personally; and

4) enabling broader change.

The varying foci of these experiences determined how dimensions above were expressed. Thus:

- a focus on meeting job requirements in (1) was expressed in the completion of tasks such as projects, and associated with anxiety about whether ability to perform tasks was demonstrated;
- a focus on becoming known or recognised in field in (2) was expressed in making research activities visible and associated with achieving recognition;
- a focus on developing personal understanding (3) was expressed in solving issues and problems of personal interest and was associated with interests in and enthusiasm for research; and
- a focus in (4) on enabling change and the wider social issues was expressed in making a contribution to society or the field and associated with passionate engagement with research.

Akerlind argued that these experiences of research are distinguished by whether the benefit accrues to individuals or the wider society, thus reflecting a broad distinction in experiences of research about the purpose of research. In this argument, variations in experiences of research are related to variations in understandings about the purpose of research. Different understandings of the meaning of research therefore account for different responses to accountability measures and other academic processes (such as peer review).

Akerlind's findings have three implications for the present study.

First, working knowledge of research appears to include understandings about its intent, outcomes, questions and process;

Second, the tacit dimension of this knowledge appears to include an affective domain indicating how academics feel about themselves as researchers;

Third, it appears to include understandings about external factors influencing research and the capacity to respond to these.

Study 5: Akerlind 2008b, *Growing and developing as a university researcher.* Higher Education, Volume 55, Issue 2, pages 241-254.

This study, by the same researcher, draws on data from the same group of academics above. It explored the relationship between research and teaching by investigating academics' understandings of growth as a teacher and as a researcher (Akerlind 2008). Akerlind's contention is that there is a link between research and teaching because understandings about growth and development underpin these experiences. This argument drew on the findings of prior work, proposing that understandings about growth as a teacher or researcher are a dimension of the experience of being an academic and understanding academic work (Akerlind 2005). In this argument, understandings of development are related to the 'perceived purpose or intention underlying what academics do in terms if the perceived impact of their work' (Akerlind 2005, p28). The selected study explored this proposition by comparing variation in understandings of development and growth as a teacher (established in the prior study) with the same academics' variable understandings of their growth and development as researchers (developed in the selected study).

Comparisons identified overlapping themes in foci of academics' understandings of growth and development in research and teaching. Variation in academics' understandings of growth and development, inclusive of teaching and research, was identified in overlaps between:

- developing comfort and confidence as a teacher and developing confidence and recognition as a researcher;
- increasing teaching skills strategies and knowledge and becoming more productive as a researcher; and

- increasing student learning outcomes in teaching and increasing research sophistication and outcomes in teaching and research.

Akerlind contended that less and more complex understandings of developing as a teacher and researcher were distinguished by whether the object of development is understood as endless. In less complex understandings, development is understood as finite and is thus focused on the acquisition of discrete skills and knowledge; development comes to an end when these are acquired. In sophisticated understandings (by comparison), development is understood as finite and is thus focused on understanding the concept of learning as it applies to the individual; it is endless.

In Akerlind's argument, the overlaps identified in the study developed understandings about how academics relate teaching and research. In support of this argument, Akerlind drew on the relationship established in the prior study above between less complex understandings of development and teacher-focused conceptions of teaching, and complex understandings of development and student-focused conceptions of teaching. She argued that conceptions of learning, related to conceptions of teaching, are also identified in conceptions of growth and development as a teacher and researcher. Akerlind concluded that academics' understandings of growth and development as a teacher and researcher offer insights into academics' understandings of teaching and research and the relationship between these.

There are three implications for the present study in Akerlind's findings.

First, understandings about how to grow and develop appear to be associated with working knowledge of teaching and working knowledge of research.

Second, working knowledge of teaching appears to include working knowledge of research and vice versa in (which understandings of growth and development are located); academics' understandings of the relationship between teaching and research appear to be constituted from these understandings.

Third, working knowledge of teaching and research and academic practice overall appears to be associated with academics' understandings of academic work and what is expected of them as academics.

Study 6: Prosser et al, 2008, *University academics' experience of research and its relationship to their experience of teaching.* Instructional Science Volume 36, pages 3–16.

Prosser et al (2008) investigated academics' understandings of subject matter and concluded that these underpin their experiences of teaching and research; thus suggesting how the relationship between teaching and research is constructed by academics. Like Akerlind, Prosser et al developed a set of descriptions of academics' experiences of research. In their study however, the same academics' experiences of teaching and subject matter were developed and compared. The study, based on data from 37 experienced research academics, was in two stages. In the first stage, relations between academics' understandings of subject matter and their experiences of research were developed and brought alongside understandings of subject matter and experiences of teaching identified in a prior study (Prosser et al 2005). In the second stage, a 'parts to wholes' spectrum — developed as a tool to analyse and describe relations between academics' experiences of research, teaching and subject matter — was used to establish empirical relationships between experiences of these phenomena.

The analysis identified that there was an underlying structure in the ways academics in the study experienced teaching, research and subject matter. It found that the underpinning structure of these experiences identified understandings about knowledge in the academics' field and how this was interpreted in teaching and research. In this argument, the underlying structure identified understandings about the field as well as academic practice. Prosser et al hypothesised that an underlying structure focused on 'parts' identified a relationship between teacher-focused experiences of teaching, less complex experiences of research and less complex understandings of subject matter, thus indicating less complex understandings of the field and academic practice. Alternatively, an underlying structure focused on 'wholes' identified more complex or

complete understandings of the field and academic practice that were expressed in complex experiences of teaching and research and understandings of subject matter.

In another phenomenographic study Prosser et al claimed on the basis of this analysis that academics' understandings of subject matter played a mediating role between academics' experiences of teaching and research. In this argument, these understandings are pivotal to how academics interpret the intent of teaching and research and are influential in determining the strategies they use to realise this. However they argued that academics' conceptions and experiences of research were a likely indicator of their knowledge of the field and academic practice on the basis of their analysis of academics' experiences of research developed in the study. These were;

a) a series of self-contained projects that do not extend disciplinary knowledge;
b) the development of field of study based concepts issues or procedures that are linked and integrated coherently;
c) the application or development of a theory within the boundaries of the field of study; and
d) inquiry based open-ended development and change in the field.

Prosser et al concluded that the underlying structure of academics' experiences of teaching and research and their understandings of subject matter identified in the study, provided empirical evidence of relationships between experiences of teaching and experiences of research. These structures, they argued, could explain variation in the ways that academics experience the relations between teaching and research in their practice.

There are implications for the present study in Prosser et al's findings:

First, understandings about the nature of the relationship between teaching and research appear to be implicated in working knowledge of academic practice.

Second, understandings about subject matter in teaching and research appear to be an aspect of working knowledge of academic practice.

Third, a tacit dimension of working knowledge appears to be knowledge of the field or discipline.

Summary

Recent conceptions research, including phenomenographic studies, identify relationships between academics' experiences of teaching and research. These studies also establish relationships between experiences of teaching and research and understandings of growth and development as an academic and subject matter, suggesting that experiences of teaching and research are more complex and layered than previously understood.

Contribution of this thesis

This review of the literature, related to the working knowledge of academics, suggests this thesis has the potential to make productive conceptual links across and between what has been recently described in a recent review of higher education research (Kandlebinder 2012) as including teaching and learning; academic work and the purpose of higher education; and research practices in the field. This review by Kandlebinder argues that, these sub-fields have emerged over the last 20 years not so much as a result of planning, but from the ideas, issues and problems that have arisen as higher education has responded to the changing epistemological and social conditions shaping the context of work in universities.

Despite changing conditions, it is noted that issues in teaching and learning and a model of learning and teaching proposed by Biggs (1999) and developed by others such as Prosser and Trigwell (1999, 2003, 2004) and Martin (2000, 2001, 2003) who worked with it, has persisted over that time and evolved. Further, this model of learning — underpinned and represented by the concepts of deep and surface learning, developed by Marton and Saljo (1984) and Saljo (1979) — is now established as orthodoxy in the field and influence thinking about the ways students learn in higher education in powerful ways. However, it is also noted that the links between this focus and the other sub-fields, though emerging, are still under construction.

Despite the fact that this review of the literature was undertaken several years ago in the early stages of the study, it specifically engages with each of the sub-fields identified by Kandlebinder. One of these sub-fields — teaching and learning — is of particular interest, partly because teaching and learning is at the core of academic work, but perhaps more significantly because phenomenographic literature that was developed with special reference to teaching and learning in higher education is central to the methodology adopted for this study.

The second sub-field identified by Kandlebinder is knowledge as it is put to use in day-to-day work. 'Working Knowledge', as this study terms it around core academic work, teaching and learning, but also the knowledge required to make teaching and learning and research happen in a contemporary university, is also clearly at the heart of this present investigation. As a phenomenographic study, the present investigation of academics' working knowledge has the potential to explore how academics' conceptions of and approaches to learning and teaching and research are related to other aspects of day-to-day academic work and ultimately has the potential to comment on academics' experiences of contemporary academic work.

The literature surveyed in this review emphasised that, though much is known about trends influencing academic work, less is known about how these are experienced 'on the ground', from the perspective of academics. This present study has the potential to explore that which sits behind and underpins core work and which is much commented on but little explored from an experiential perspective.

Working knowledge of academic practice will, the review indicates, include knowledge about institutional cultures that are shaped by trends such as marketisation, globalisation and internationalisation. Further, what counts as knowledge about teaching research and the practices required in relation to these is embedded in knowledge institutional cultures, the context of work. This knowledge, acquired through work and mainly tacit, is, the review indicates, complex and sophisticated. As a concept, it brings together knowledge and identity. To put it simply, recent definitions of the concept (which this study is working with) assert that we are what we know (Symes &McIntyre 2000). The descriptions of working knowledge emerging from the study have potential not only to

fill the gap in understandings about how academics are experiencing trends, but to shed light on the observed differences in the ways academics choose to work and see themselves as academics in contemporary universities.

The literature reviewed in this chapter drew on literatures from within different methodological traditions, with phenomenography identified as one of these. Though overlapping thematically, these are distinguished by the different perspectives they bring to the topic by virtue of the different questions asked and methodologies adopted to explore them. As described, phenomenography is a significant sub-set of conceptions research that adopts a non-dualistic epistemology and adopts a non-dualistic epistemology, while the others are broadly characterised by the dualist epistemological stances they adopt. An intriguing exception, as noted in the review, is a body of work that focuses on exploring academic identities and which adopts qualitative approaches such as narrative analysis. This thesis, though from a phenomenographic perspective, occupies a space that has potential to stretch the boundaries of this approach towards the use of narrative and other approaches in an exploration of the nexus between knowledge, identity and practice.

This potential to stretch the boundaries of phenomenography is of interest to the sub-field of academic development, also explored in the literature above. As already discussed, this field is under consolidation and in a search of epistemological security that may further inform its practices. Key ideas and concepts already informing practice in the field are related to the learning model underpinned by the concepts of deep and surface learning and investigated using phenomenography amongst others in conceptions research. However, as noted in the review, it is acknowledged that other learning models and methodologies are relevant to research that informs practice in academic development.

This present study, with its focus on working knowledge, brings ideas associated with learning and teaching and research from a phenomenographic perspective together with studies exploring knowledge, identity and practice from other traditions, but within the context of a phenomenographic study. This perspective has potential to offer a different

angle of vision on academic development practice that may be useful in ongoing discussions about what constitutes its key ideas or 'canon' (Peseta 2011).

These emerging sub-fields in the area of higher education identified so recently by Kandlebinder are used in the final chapter of the thesis to explore and discuss the findings that emerge in the three data chapters. The following chapter explores the phenomenographic methodology that informs this present work and explains the reasons for selecting it as a way of proceeding.

Table 2.2 Selected studies and the themes of knowledge, change and context

Author(s)	Investigates…	Draws on…	Also relates to…	Comments on…
Light *et al* 2008	Experience of change in **teaching**	Ho *et al* 2001 McKenzie 2002 Akerlind 2003, 2004 Light, Calkins & Luna 2006 AND Trigwell & Prosser 1996 Prosser & Trigwell 1999	Dall 'Alba 2005 Martin & Luekenhausen 2005 Elen *et al* 2007	**Change** and **knowledge** in relation to teaching, but also refers to implications for research
Postareff *et al,* 2008	Consonance and dissonance in approaches to **teaching**	Ho, et al 2001 Prosser *et al* 2003. Martin & Lueckenhausen 2005, Lindblom –Ylanne *et al* 2006 AND Trigwell & Prosser 1996a	Trigwell et al 1999	**Change** and **context** in relation to teaching, but comments on the relationship between teaching research

Lindblom-Ylanne *et al* 2006	How approaches are affected by discipline and **teaching** context	Kember & Kwan 2001 Samuelowicz & Bain 2001 Akerlind 2003 Lueddeke 2003 Trigwell 2001 AND Trigwell & Prosser 1996 Prosser & Trigwell 1999	Trigwell et al 1999	**Context,** also refers to **change i**n relation to teaching
Akerlind 2008	Conceptions of research	Kember & Kwan 2001, Prosser & Trigwell 1999	Bruce etal 2004 Ingerman 2003 Ingerman & Booth 2003 Bowden 2005	**Context** and **knowledge** in relation to the relationship between teaching and research and knowledge
Prosser *et al* 2008,	Experience of **research** and how it relates to teaching	Prosser et al 2005 Martin *et al* 2000, Martin *et al* 2003 Martin & Lueckenhausen 2005 AND Prosser & Trigwell 1999 Trigwell et al 1999	Elen et al 2007 Brew 2003 Young, 2008 also Kember & Kwan 2000 Prosser & Trigwell 1999 Light & Cox 2001, Light 2006 Robertson & Bond 2001 Trigwell et al 2005	**Knowledge,** also refers to implications for **change** and refers to **context** in relation to experiences of research related to approaches to teaching

Akerlind 2008	Developing as a **researcher**.	Samuelowicz & Bain 1992, 2001 Prosser & Trigwell 1999 Martin & Ramsden 1992 Martin & Balla 1991 Akerlind 2003, 2004, 2005 Ingerman 2003, Ingerman & Booth 2003, Bruce *et al* 2004 Brew 1999, 2001a, b, Bowden 2005, Prosser *et al* 2006	Prosser *et al* 2006	**Knowledge,** also refers to implications for **change** and the **context n** relation to experiences of research related to approaches to teaching

Chapter 3 Methodology: The challenge of working knowledge

Introduction

Even though knowledge is the main business of academic staff, the literature reviewed in the previous chapter suggests that the working knowledge of academic staff has escaped examination so far. There is a good deal written on working knowledge per se and a good deal more on academic practice and the institutional frameworks within which academic work operates. There is also a significant body of work that focuses on academic staff members' experience of specific aspects of academic work, such as teaching or research. But the day-to-day knowledge that academic staff need to maintain their professional role and credibility has, so far, gone largely unexplored.

Day-to-day knowledge as identified in the last chapter is, in more recent definitions of working knowledge, a complex interplay between tacit and explicit knowledge that creates a nexus between knowledge and identity, or what we know and who we are. As we have seen in the review of existing work relating to academics' working knowledge, on one hand there are investigations into this concept and academic practice — including identities — that draw on methodologies that neither describe academics' experiences of either of these dimensions in detail nor do so from the academics' perspective. On the other hand there is conceptions research in the academic practice literature that describes academics' experiences of their work from their perspectives. Phenomenographic work, a significant sub-set of this literature, was of particular interest in the development of this study because of its potential to describe academics' experiences of their work in this way. As identified in the last chapter, the broader academic practice literature identifies the effects of broad trends of academic work, but provides little information about the different ways in which these trends are experienced by academics 'on the ground' and from their perspectives.

Phenomenographic work identified in the literature review investigated variation in academics' experiences of the teaching and research aspects of academic practice. These investigations, though not directly addressing the topic of working knowledge, were probing areas of academic work from the perspective of academics themselves that would logically be related to their working knowledge. This body of work about academics' experiences of these core aspects of academic work were identified as

potentially providing a useful basis from which to address the broader issue of the working knowledge of academic work.

In addition to this it appeared that the topic of working knowledge itself also provided a basis for a phenomenographic investigation at a deeper level that connected with its epistemological foundations. Working knowledge is understood as dependent on context and situation in similar ways to how experiences are understood as affected by context and situation in phenomenographic terms (Marton & Booth 1997). From both perspectives, the context is pivotal to the formation of knowledge and experience. At a more fundamental level, a relational way of knowing connects the theorised concept of working knowledge (Symes & Mcintyre 2000) with the theoretical foundations of phenomenography. The relationship between learning, knowledge and work, acknowledged in the concept of working knowledge (Boud 2000, Usher 2000) is understood in ways similar to the relationship between learning, knowledge and doing in phenomenographic terms (Svensson 1997).

As a consequence of these connections, this study investigating the working knowledge of academic staff is approached from a phenomenographic perspective. In the following pages the ways of thinking and working that underpin phenomenography are explained.

Phenomenography as an epistemological framework

As discussed in the previous chapter, there is a significant body of work, phenomenography, which is a subset of conceptions research, which in turn is influential in higher education research into learning and teaching. The bulk of this literature, which investigates academics' experiences of phenomena related to teaching and learning and research, has been influential in shaping thinking about teaching and learning in higher education over the last 30 years (starting with Saljo 1979 and Marton & Saljo 1884). Over the last 10 years or so, however, more attention has been paid to its theoretical and philosophical roots and an epistemological framework and its underlying assumptions are now more clearly articulated (Marton & Booth 1997, Bowden & Walsh 1994, 2000, Dall 'Alba 1996, Lo 2004, Bowden & Marton 1998, Akerlind 2005). The key epistemological assertion is that this is a relational, not dualistic epistemology.

As a relational not a dualistic epistemology, it is neither exclusively concerned with focusing on the inner world as a means of explaining the outer world, nor with focusing on the outer world as a means of explaining the inner. It accepts that there is no division between the inner or outer world, as 'there is only one world', which is 'constituted as an internal relation between them' (Marton & Booth, p13). The notion of objective and subjective becomes irrelevant from within this position. As Bowden & Green describe it, the object of study is 'the relation between the subjects and that phenomenon' (ibid, p12). By taking this epistemological stance, the researcher accepts that knowledge of the world, gained in experiences of phenomena, is constructed by the subject through relating the inner and outer worlds seamlessly and simultaneously.

This epistemological stance has implications for conceiving, conducting and communicating investigations of phenomena (Bowden & Green 2005). The methodological imperatives flowing from this are reflected in key ideas informing what lies at the core of 'traditional' phenomenographic approaches to investigating experiences of phenomena. These are identified below.

Variation in experience

In taking a non-dualistic stance, phenomenography accepts that there will be variation in the ways that subjects relate to phenomena; each experience is the product of the way the inner and outer worlds are internally related by the experience. It is accepted that experience is always partial and that time and place will likely influence any experience, so significant variation of an experience will occur. However, it is also accepted that there will be a finite range of ways that subjects will relate to a phenomenon within any group. As a result, phenomenography focuses on variation between ways of experiencing a phenomenon, or the different ways that subjects relate to a phenomenon. The key purpose is to map and describe the range of ways in which phenomena are experienced within a given population.

Key aspects of variation

The key task in mapping and describing the range of ways in which a phenomenon is experienced within a given population is to identify what distinguishes different experiences of phenomena from others within that group. These differences are defined

by ‘key aspects of variation’, which focus on the major, not minor differences between experiences. This process creates categories of experiences rather than a catalogue of every experience of the phenomenon within the group. The aim of phenomenographic research is not to capture the richness and complexity of human awareness in any one moment or across time. It is rather to identify the critical key aspects of variation of a specific experience — those that offer insight into the understanding of the phenomenon as it was experienced at a particular time.

Expanding awareness

From a phenomenographic perspective, any phenomenon may be thought of as a complex whole with component parts. In making sense of this phenomenon individuals will discern more or fewer of these parts and their relationships with each other. The more awareness that is demonstrated of a phenomenon the greater will be the understanding of how parts fit together and how other parts fit into the overall pattern. There will be a holistic awareness of the complexity rather than an almost arbitrary awareness of bits and pieces. This typical pattern of an expanding awareness of the nature of a phenomenon is common across all phenomenographic studies.

The structure of meaning

An expanding awareness is presumed because phenomenographic studies assume a dialectical relationship between the structure of experience and the meaning of that experience, so experience of a phenomenon presupposes a meaning and a meaning likewise is based on the recognition of a certain structure. Experience and structure pre-suppose each other and are intertwined.

Structural and referential dimensions

The meaning of the experience is typically called the referential aspect. Sometimes it is simply referred to as the ‘what’. The referential aspect, the ‘how’ of the experience, has been identified as having two components. The first is how the phenomenon is seen, understood, as a whole. The second is how different aspects within the phenomenon are seen and how they are connected and related to each other. How an individual experiences a particular phenomenon will depend on the range of component parts discerned and how they fit together — and the overall sense they make.

Hierarchy of understanding

The more aspects of an understanding an individual discerns and the more relationships between component parts that are identified the deeper an awareness of a particular phenomenon is acknowledged to be. Because all levels of awareness refer to the same phenomenon there is an expectation that all ways of experiencing will be logically related. Less complete awareness will necessarily be included within the understanding of those who demonstrate greater awareness. The consequence is that the overall range of understandings as constituted through the data represents a hierarchy of awareness.

Outcome space

As part of the reporting of outcomes, phenomenographic studies present what is called an 'outcome space'. This is a chart that represents the range of different ways a phenomenon is experienced, called categories of description.

Categories of description

It is argued that there will be a logical relationship between the different categories of description because they all refer to the same phenomenon. The outcome space is seen as a structured space where related awareness is mapped, so the categories are seen as descriptions of the range of different understandings of the phenomenon and the variation in the meaning is represented by the structure of that meaning as it is mapped on to the outcome space.

Focus on collective rather than individual understanding

In phenomenography a category of description does not necessarily represent the experience of any particular individual. These categories are rather descriptions of the key or critical aspects of a phenomenon as they are derived from the collective data. They represent a perspective from a particular structural and relational position, not necessarily the perspective of any individual. They are often criticised for being minimalist, but they are meant to represent only the essence of an experience and to highlight only key aspects of a phenomenon.

Validity and reliability

Validity is established in phenomenograhy by iterating between transcript data and researcher interpretations of data. Interpretative rigour is critical to ensuring that what is under analysis is in fact analysed. This can be achieved by checking interpretations with others. It is important that the researcher does not impose meanings on the data, so reliability is important to establish. This is done in a number of ways, but inter-reliability rating (in which, for instance, others are asked to interpret data) is a common method (Akerlind et al 2005).

Phenomenography as method for this study

As was seen from the literature review, aspects of academic work — mainly teaching and research and learning — have already been analysed and categorised according phenomenographic principles, so these studies were a starting point for an investigation of academics' working knowledge. These studies were expected to be significant because they dealt with the core aspects of academic work that could logically be the focus of working knowledge. Moreover, the underpinning theoretical perspective of phenomenography — which suggests there will be a relationship between not only different ways of experiencing the same phenomenon, but also ways of experiencing similar, or related, phenomena — identified a way forward for understanding what phenomena comprised the phenomenon of working knowledge.

At one level, the basic challenge was consequently to find out what more beyond teaching and research was within the awareness of academic staff when they talked about their working knowledge. Literature in the previous chapter offered guidance on this, with two broad yet possibly unconnected areas identified. The first was 'service', the area of academic work often identified as the third aspect of academic work alongside teaching and research (Greenbank 2006, Karlsson 2007). This is variously defined in this literature as service to the university and service to the community. The second area, administration, was identified in discussions about increased managerialism and accountability as being a significant aspect of the working life of academic staff arising in the context of the changing nature of knowledge and its effect on universities.

When academics in the study were asked about their working knowledge, it was consequently anticipated that teaching and research would be highlighted. It was also anticipated that ideas concerning 'service' and managerialism and accountability might emerge, though there was no other phenomenographic study that supported this.

The initial task of the analysis would involve establishing what additional field or fields of knowledge, other than teaching and research, constituted the working knowledge of academic staff. This initial analysis is described in full later in the thesis. In order to accommodate a full explanation of method, however, it is flagged at this stage that a third domain called 'institutional administration' was subsequently identified. This domain included activities from simple administrative tasks to complex issues of governance and management. All these activities in one way or another could be seen as responding to university demands around the governance and administration and some satisfied the definition of 'service' to the university as well.

It was clear from the responses from academic staff in the study that they saw academic work as a series of separated, but related areas. These were subsequently crystallised into 'domains' of working knowledge — teaching, research and institutional administration. Whereas phenomenographic analysis typically has a focus on the phenomenon under investigation as a single entity, it was clear in this study that the phenomenon was a multi-phenomenal field comprising at least three phenomena (domains).

After establishment of the three domains, individual transcripts were marked up to identify sections referring to each domain and analysis was undertaken of the day-to-day working knowledge at the heart of that specific domain. Following this initial analysis however, a subsequent analysis that worked to both connect the three domains and to identify a broader cross-phenomenal field of working knowledge was undertaken. This second level of analysis did not employ traditional phenomenographic methods and is described in more detail later.

Context of the study

The review of the literature established that working knowledge is the product of work in a specific context and working knowledge of academics is the product of work in an institutional context. The working knowledge of academics in the present study was therefore understood as the product of work in that specific institutional context; a context that was similar to other Australian institutions yet defined by circumstances and conditions unique to the institution. The context for the study was therefore more than usually important for a phenomenographic study because of the direct influence of context contributed to it in the construction of working knowledge.

- *The site of the present study* was Victoria University (VU) in Australia. VU received university accreditation status in 1990. Similar to other universities established as a result of reforms to the national tertiary education system, it resulted from the merger of non-self-accredited tertiary institutes, in this case the Footscray Institute of Technology and the Western Institute. In addition to a higher education component that grew from these two institutes, it has a significant vocational and further education component as a result of a merger with the region's largest provider, the Western Melbourne Institute of Technology, in 1998. Approximately 50 per cent of the student profile of 50,000 and the staff profile of 800 teachers and academics work in higher education faculties. The higher education component is characterised by a developing research culture with a strategic focus on engagement with industry and the professions and a teaching focus with a strategic focus on work integrated learning in the context of cross-sectoral curriculum development.
- *During the period of data collection and analysis* strategic directions (highlighted above) were implemented following the appointment of a new Vice-Chancellor. Higher education was the starting point for review and implementation, with the result that a wave of changes, including faculty restructures, was in progress during the period of data collection.

Changes that occurred either immediately before and during, or were anticipated within this period included:

- the development of a suite of teaching and learning policies and procedures that required cross-sectoral programs, the development of e-learning approaches, the integration of 'real' work experiences in the curriculum and the requirement for the collection of student feedback;
- the establishment of a system of monitoring and recording research outputs, the formation of research centres and the requirement for all academics to establish 'research active' status; and
- the development of an Enterprise Agreement between staff and management. This included an escalation of union-based activity in response to the perceived rapidity of these changes and the demands these made on academics

These factors, as well as the essentially non-traditional nature of the institution, suggested that this site for the study would possibly elicit evidence of alternative practices and identities to those identified by Archer (2008). In this argument, Archer asserted that non-traditional institutions are compelled, in reaction to market forces, to develop research and teaching cultures that distinguish them from traditional institutions against which they cannot compete. These cultures, it is argued, shape alternative teaching and research practices and identities. These, she suggests, reflect emerging trends that will ultimately shape academic work in even traditional institutions. The analysis was undertaken in light of this argument.

Data collection

Data collection was conceptualised, in accordance with phenomenographic approaches to analysis, as integral to analysis of data (Marton & Booth, 1997). The main aim of the interview was to encourage interviewees to give their own understanding of what constituted the work of an academic day to day.

The key source of data for the study was transcribed interviews from 20 academics at Victoria University. Data collection protocols adopted for the study were in accordance with well-established principles guiding phenomenographic approaches and included:

- adoption of a neutral stance before and during interviews so that the participants' 'voice' emerged from the data (Sandberg 1997, Ashworth & Lucas 2000, Bowden & Green, 2005);
- selection of participants for the study who could yield as much variation in understandings of a phenomenon as possible (Marton & Booth 1997);
- development of an interview protocol comprising an opening question, requests for examples and a review/summing up question (Bowden and Green 2005);
- conduct of pilot interviews to trial questions and interviewing techniques (Akerlind 2005, Bowden & Green 2005); and
- conduct of interviews in a consistent manner so that all participants were asked about the same phenomena (Bowden 1994a; Prosser 1994; Trigwell 1994; 2000, Svensson 1997, Dall 'Alba 2000).

Participants

The 20 participants were recruited to the study in two months prior to the conduct of interviews. It was constituted with a view to eliciting as much variation in work orientations and perspectives as possible, these being:

- disciplines;
- types of work;
- levels of appointment;
- experiences as academics;
- cultural backgrounds; and
- gender and role descriptions.

These groups were not difficult to identify as the University has a diverse staffing profile. Participants were identified by a variety of means including;

- lists of new staff developed by the university's Human Resources area — for identification of new-to -VU and sessional staff;
- university school's staffing lists — for identification of discipline areas;

- university heads of schools and research institutes and centres — for identification of senior levels of appointment; and
- lists of internal research, teaching, service and engagement award recipients — for identification of academics with specific roles and functions focused on these areas.

Access to these lists was not difficult. As Head, Staff and Curriculum Development in the Centre for Educational Development at the time of selection, I was familiar with the administrative structure of the organisation as well as communication processes and systems. I also knew many academics at VU either by reputation or through my role interactions.

Twenty academics took up the invitation to participate in the study following:

- an introductory email outlining the purpose of the study, its requirements in terms of their time and measures to ensure confidentiality. This emphasised that participation was not mandatory, associated with institutional requirements or specifically about professional development because of my role;
- a fuller briefing in which the nature of the study and the process used to collect data was spelled out face-to face following receipt of a positive response to the introductory email. Fifteen participants received a face-to-face briefing; five were happy to participate without it;
- briefings lasted 20-40 minutes, were informal, and covered the following:
    - an explanation of the process and confidentiality procedures; and
    - ability to withdraw at any stage, including during data analysis;
- issues identified and discussed in these meetings included:
    - an explanation about where transcripts would be kept (my office),
    - whether participants could read transcripts (yes),
    - whether tapes would be used (yes)
    - whether these would be heard by others (yes, but the transcribers signed confidentiality agreements),

- whether their manager or anyone else would be able to trace comments to them (no, because of the nature of phenomenographic analysis).

None of those interviewed indicated that they wished to withdraw from the study. The high response rate to invitations to participate (20/21) and the strong interest in the issue of working knowledge in academic work confirmed in my mind the topicality of the subject amongst academics.

The size of the group was deemed suitable for the study because:

- it was within the accepted range for a phenomenographic study, the minimum being 10 or 15 interviews (Trigwell 1994, Entwistle 1997);
- it was the same size as recent phenomenographic studies investigating relationships between multiple phenomena. The literature review of selected studies identified samples of 20 in studies by Akerlind (2008b) and Prosser et al (2008), for example; and
- comparisons with other doctoral theses using phenomenographic approaches confirmed that a 20-interview sample was appropriate for a doctoral study.

Table 3.1 Participant profile

Level	2 level A, 7 level B, 3 level C, 6 level D, 2 level E
Experience	1 month — 23 years
Responsibilities	4 Lecturer only, 11 Unit coordinator 9 Course coordinator, 3 Head of School, 1 Head of Research Centre
Gender	10 female, 10 male
Discipline	Business and Law (Accounting, Marketing, Economics, Tourism, Management) Health, Engineering and Science (Paramedic, Computing Science, Civil Engineering, Bio medicine, Mechanical Engineering, Biology, Mathematics) Arts, Education and Human Development (Social Work, Nursing, Humanities, Education, Psychology, Exercise Physiology, Cultural Studies, Sport Science,

Interview questions

The interview questions for the study were developed in accordance with guidelines identified by phenomenographic researchers, these being:

- attention to the issue of interviewer neutrality in recognition that the interview is a co-construction of meaning of phenomena (Sandberg, 1997);
- recognition that questions asked during the interview are critical to the adoption of a neutral stance (ibid);
- establishment of a framework for the interview around three distinct components — overview, guided reflection with examples and summary and comment — that are designed to minimise interviewer impact on the co-construction of meanings of the phenomenon under analysis (Bowden & Green 2005);
- development of follow-up questions to elicit concrete examples and thus clarify the meanings of the phenomenon that emerge (Sandberg 1997);
- a focus on 'why' as well as 'what' in follow-up question as a way of bringing attention to the meaning of the phenomenon for interviewees (Akerlind 2005); and
- conduct of a pilot study to test the questions and develop interviewing techniques as recommended for novice interviewers *(*Akerlind 2005, Bowden & Green 2005).

The conduct of the pilot study of five interviews resulted in modification of the initial interview schedule as outlined in Table 3.2.

Table 3. 2 Modifications to interview schedule

Framework	Pilot questions	Final study questions
Planned open question (‘*what does the phenomenon mean to you?*’),	Planned open question W*hat does working knowledge mean to you?* Follow up: *'Could you explain that further?', 'What do you mean by that?').*	Planned open question *What do you need to know in order to work as an academic at VU?* Follow up: *'Could you explain that further?',* *'What do you mean by that?'.* *Why do you think that is so?*
Planned question prompting a concrete example about the phenomenon & Questions that encouraged the interviewee to give their own concrete examples	Planned question prompting a concrete example of working knowledge *Can you give me an example of your working knowledge?* Follow up: *'Could you explain that further?', 'What do you mean by that?')*	Planned question prompting a concrete example *Can you give me an example of a time when you felt you had enough/did not have enough knowledge to work and do your job as an academic?* Follow up *'Could you explain that further?', 'What do you mean by that?')* *Why do you say that?*
A planned final question clarify and check meaning	A planned final question to clarify and check meaning *You identified earlier that your working knowledge involved xx, is that right? Have I got it right?*	A planned final question to clarify and check meaning *You identified earlier that your knowledge of working as an academic involved xx, is that right?* *Have I got it right?* *Can you describe again what your working knowledge is?* Follow up: *Could you explain that a bit more?* *So what do you mean by that exactly?* *Your working knowledge seems to be xx — is that right?* *Is there anything else you’d like to add before we finish?*

The initial questions were problematic in the pilot interviews because they:

- Did not seem to tap into an interviewee's awareness of the phenomenon of working knowledge at an early stage of the interview.
- Encouraged descriptions of what the academics did, rather than encouraged an articulation of what it was they needed to know.

Modifications to the questions therefore focused on supporting academics in the study to make explicit their understanding of what they needed to know to work as an academic. For example, when the planned opening question '*What does working knowledge mean to you?*' was put to interviewees in the pilot study, the response was met with requests for a definition from the interviewer, or confusion, or an outright 'don't know'. However, when the revised question, '*What do you need to know in order to work as an academic at VU?'* was asked, it elicited conceptual responses that included practical examples.

The modified questions were used in all subsequent interviews. Interviewees were guided during the interview to reflect on their day-to-day work, but more importantly, *what they needed to know* to undertake their work as academics at VU.

The opening question focused broadly on knowledge in day-to-day work in the institutional context and sought to raise the interviewee's awareness of the phenomenon of working knowledge within that context.

Questions about times when interviewees had the knowledge or did not have the knowledge to do their work sought to elicit examples of knowledge put to work in day-to-day practice. These and follow-up questions focused on exploring interviewees' understandings of the phenomenon of working knowledge and their awareness of dimensions or aspects of this knowledge.

The final question sought to summarise the interviewees' understandings of working knowledge. This and the follow-up questions focused on eliciting a more conceptual description of working knowledge.

The questions thus sought to start with interviewees' perceptions of the immediate context of their work and their understandings about knowledge needed for that work, and move towards descriptions of it in abstract terms at the end.

Transcripts

Data was collected from 20 interviews, five of which were conducted in the pilot study using questions that were subsequently modified.

Interviews were undertaken with reference to recommended procedures for the conduct of phenomenographic interviews, these being;

- conceptualisation of the interview process as starting with the information provided to interviewees and ending with the transcription process (Akerlind 2005, Bowden & Green 2005);
- acceptance that meanings of phenomena were jointly constructed by the interviewer and interviewees in the course of an interview (Akerlind 2005);
- recognition that a planned process aimed at controlling interviewer input to the construction of meanings of the phenomenon was necessary (Green 2005);
- recognition that interview techniques assisting interviewees to theorise the phenomenon were important in determining the quality of data (Bowden 2005); and
- recognition that transcriptions should be accurate (Walsh 2000, Barnacle 2005)

Interviews were conducted over three months from November 2003 to February 2004 following approval from the University's Ethics Committee (approval date: November 2003). These were typically an hour in duration. Transcriptions were completed within three months by two transcribers working under the direction of the author (by June 2004). These were typically between 15-20 double-spaced pages in length and were checked by the author during and after transcription.

All interviews followed the same sequence, though the pace and scope of interviews varied according to how interviewees responded to the questions.

- *Pre interview activities*, undertaken at the site of interview, which was typically the interviewee's office or a space nominated by the interviewee, included a business-like discussion about the taping procedures, and confirmation that the interviewee understood how confidentiality was assured and had the right to withdraw at any stage. The interviewer avoided casual discussion about the topic of working knowledge in an effort to minimise influencing the interviewee's understanding of the concept. The interview did not begin until the interviewee's questions were answered and they were deemed at ease;

Interview

  - *Stage* 1 comprised the opening statement and question. The statement was scripted and comprised a summary of the study's aims. The opening question started with the intent of eliciting a description of what was known by the interviewee. Follow-up questions focused on clarifying meanings, but did not develop these beyond what was stated by the interviewee. Questions were repeated or rephrased when responses were unclear or interviewees sought clarification.

  - *Stage 2* comprised questions seeking examples of times when interviewees had or did not have working knowledge. The contrasting examples aimed to develop interviewee's understanding of the concept. Follow-up questions on this were focused on getting descriptions of knowledge needed in day-to-day practice or explanations about what was meant. These were avoided if interviewees could not elaborate when asked to or give examples of instances when their knowledge was put to work. For example, if an interviewee gave an example of a time when they had working knowledge, but could not think of a time when they did not have it, I would move on to the next section, but invite them to offer an example if they wished in the summary section of the interview. Follow-up questions were repeated or adapted to examples cited by interviewees if necessary.

  - *Stage 3* comprised questions seeking to summarise the interviewee's understanding of working knowledge in conceptual terms and to bring the interview to a close. A summary of the interviewee's working

knowledge was offered, for comment, to the interviewee. The follow-up questions sought to clarify the meanings of working knowledge to the interviewee. Interviewees were encouraged to offer their theories about working knowledge and academic work if it helped clarify the meanings given to it. Follow-up comments on responses were also avoided. For example, it was common in interviews to be asked 'Is that right?' when interviewees answered questions about the knowledge they used in their work. When this occurred, interviewees were assured that there were no right answers and invited to make further responses or move on.

Transcripts

- *w*ere produced as soon after interviews as possible (typically, within two weeks of interview);
- pilot interviews were transcribed by the author to gain an understanding of the process, while the rest of the interviews were transcribed by two transcribers under the direction of the author;
- transcribers were used because of time constraints owing to the full-time work status of the author; as well, this process was a realistic representation of research under normal working conditions;
- transcripts were verbatim and checked for accuracy by the author; and
- interviewees were sent copies of their interview transcripts.

Storage

- transcripts, tapes and signed permission forms for each interview are stored in a locked filing cabinet in the author's office;
- electronic files of the transcripts and scanned permission forms are also filed electronically on a password-protected drive accessible only by the author; and
- a document combining all interviews was assembled. All identifying information was removed from the transcripts and each was allocated a

number that was subsequently cited in the findings. This document was the key data source used in the analysis.

Before a full description of phenomenographic analysis is offered, however, I provide a description of the first analysis undertaken in the study. This was in response to the multi-phenomenal nature of working knowledge, and recognition that there was a need to deconstruct the field to understand how it was put together before a more detailed holistic analysis could take place. This initial analysis was undertaken to highlight which major areas of work, or domains, as they are called in this study, were involved in the expression of working knowledge by academic staff.

Analysis

Because our common understanding of academic work is so socially and culturally tuned into the idea of teaching and research, it would be unlikely for these domains not to be key elements in any description of working knowledge for academic work. Without any prompting, all interviewees talked about teaching and what they needed to know to perform their teaching roles and responsibilities. It had been assumed that this would also be the case for research, but this was not so. In this 'new' university where the study was undertaken, some academics were largely involved with teaching and minimally involved with research, and there were a small number (six) who did not bring up research as being part of their working knowledge until prompted. Once prompted, however, they did not hesitate to offer a description of what working knowledge they needed with regard to research.

A major question, from the start, however, was what else was central to a working knowledge of academic work and how was this expressed and understood. The idea of 'service' is common in the university's analysis of academic work, particularly in terms of promotion procedures, and this was clearly one possibility. Another possibility came through literature on academic work that had highlighted the extent to which academics typically expressed concern about the increasing amount of administrative functions their day-to-day work involved (McWilliam 2004, Churchman 2006).

As it turned out, in the interviews of the present study, there was little or no focus on 'service', but there was significant comment on the extent and weight of administrative and accountability type tasks. Although it was unclear how to best to name this third category, after several readings of the transcripts it was clear that a third domain relating to institutional requirements was significant — indeed dominant — for all interviewed academic staff.

Although there was little doubt that administrative procedures were significant, it often appeared that they were closely related to teaching or research and spoken of in the same breath, though at other times the focus was on something more like management or governance. Questions arose as to whether there was more than one domain here, or whether the third domain encompassed other management, leadership or governance issues. Eventually it was agreed to proceed with a working hypothesis of a third domain of 'institutional administration' which, while supporting teaching and research, also involved the support maintenance and development of the university as an organisation. The following section gives a little more detail concerning the identification of the three domains, but principally focuses on the initial phenomenographic analysis.

First level

Although there is some variation in the ways in which researchers have undertaken analysis in phenomenographic studies (Akerlind 2012, Bowden & Green 2005), the procedure adopted for the first-level analysis of this study was broadly in line with approaches commonly undertaken in Australia (Akerlind 2012).

1) Each interview was read as a whole in order to get a sense of the overall transcript. The initial focus was on identification of distinct domains.
2) After an initial reading of the transcripts it became clear that something around administration would likely form a third domain.
3) Discussion at this stage between researcher and supervisors preceded a decision to work on the basis of this hypothesis, but to remain open to other possibilities.

4) Each transcript was subsequently read as a whole twice more. The intention here was first to confirm the three domains as a reasonable way to begin working, but also to become aware of the range of responses across the sample.

Developing outcome spaces for the domains

5) The aim of the analysis, as discussed above, is to develop 'an outcome space' — in this instance three outcome spaces. The outcome space is a representation of the ways in which the interviewees as a whole respond to the key dimensions of each phenomenon or domain under scrutiny. The focus within the phenomenon or domain is plotted along the referential axis, and the range of different ways in which the phenomenon presents itself (the 'how') is identified along the structural axis.

6) In this study an initial task involved dividing the transcripts into sections that focused on each of the three identified dimensions of academic work, then evaluating each interview in terms how each of the three domains appeared to be understood.

7) Each dimension was worked on, one at a time, and each outcome space also developed separately. A similar process, described in 5–11 below, was undertaken for each of the analyses of the three domains.

8) At this stage there was no attempt to connect the domains as described within each interview.

Establishing differences and similarities

9) Early readings for each of the separate three domains highlighted what were seen as major differences. In the teaching and research domains existing studies obviously influenced analysis, but my focus was always on a working knowledge of these domains rather than an attempt to describe understanding of the concept itself, as was the case in existing studies.

10) Highlighter pens were used in the first instance to mark what appeared to be significant sections in which insightful or relevant comments were located.

11) Initially the task involved simply finding differences and similarities. Several groups emerged in which the main focus was differences between the groupings and similarities within the groupings. At this stage there was

little attempt to identify groupings into the two-dimensional chart of an outcome space.

Establishing a hierarchy of awareness

12) Following the highlighting of major differences, a temporary ordering was undertaken based on variations in focus, with particular reference to the complexity of awareness of the phenomenon. Awareness of a phenomenon as a complex whole or as a series of related or unrelated parts, described in the Prosser et al study 2008, discussed in the literature review, was key to teasing out differences at this stage.

13) Provisional organisation of the outcome spaces progressed in this way over a period of checking and rechecking and refining for almost 12 months for the combined three domains.

14) Across this time the provisional outcome spaces were checked against transcripts and discussed and debated with my two supervisors.

15) After some time the outcome spaces for the three domains appeared to be developed to a useful extent and attention turned to the more challenging methodological second level of analysis.

Second level

Phenomenography is the major epistemological and methodological framework adopted for this study and, while traditional phenomenographic method was well suited to the first part of the study where separate domains were analysed, the use of phenomenographic method for the second part was more challenging and less straightforward. The challenge lay in exploring how the identified domains related to each other and how working knowledge underpinned the domains. In the first instance, the epistemological assumptions underpinning phenomenography suggested that these relationships could be established.

As previously discussed, according to phenomenography, the experience of any phenomenon involves the simultaneous experience of other related phenomena. Focusing within and between related domains can provide insight concerning the structure of the larger combined field. Based on the assumption that there will be a

logical relationship between these phenomena, it should be possible to map these relationships analytically (Marton & Booth 1997). So, although in phenomenography, an experience is always holistic, it is broken down into component parts for analytic purposes, and this is the case both within and across phenomena.

As has been indicated, how an individual experiences a particular phenomenon will depend on both the range of component parts they discern and how these parts fit together. In any context there will be a range of related phenomenal fields and, because experience must be coherent, it can be expected that relationships will emerge between the separate inter-related domains. This combination of fields (or domains as they have been named in this study) would logically and analytically form a new multi-dimensional domain. In this study, the combining of the three related domains of working knowledge of teaching and research and institutional administration could logically combine to form a new combined domain of 'academic work'.

Developing an approach

The combining of domains or fields is not without its challenges, however, and there is little existing work in the phenomenographic literature that has extended into this area of multi-dimensional domains and inter-relationships between related phenomena. However, two existing phenomenographic studies in particular have made headway here and seemed relevant for the present study.

Both of these studies have directly informed this second, more challenging part of the analysis. Prosser et al (2008) has shown a relationship between academics understanding of teaching and research and subject matter and Akerlind (2005, 2008b) has shown a relationship between developing as a university teacher and being a teacher and developing as an academic (Akerlind 2007). These existing studies used different ways of working to combine phenomenographic fields or domains. Each of these studies and what the present study took from them is described and explained below.

Prosser et al (2008), worked with three domains: teaching research and subject matter. Their aim was to explore the relationship between teaching and research and to use subject matter as a domain that conceptually overlapped both teaching and research in

order to map the relationship between the three domains — but specifically to highlight the long-contested relationship between teaching and research.

The research sought to establish relationships in the ways that the structural (what) and the relational (how) aspects of each of the domains overlapped and they plotted this. In doing this they highlighted the ways in which participants focused on isolated parts of a phenomenographic field or focused on structuring the parts into wholes and how this focus on parts or wholes essentially structured their fundamental understanding across the three phenomenal fields. They also used a statistical analysis of the frequency of different combinations of ways of experiencing the field, in terms of parts and wholes, to further support the analysis.

Akerlind (2008b) worked differently from Prosser. She undertook an exhaustive search of each of the interviews to find how the understandings of each of the phenomenon combined within each individual interview. She coded and analysed each interview in terms of each of the main phenomena under investigation and then again to see how, within the transcript, the inter-relationships came together and were expressed. She found, as had Prosser et al, that there was a relationship between the increased complexity of understanding across each of the phenomena. Of particular significance for the present study, however, is that she also sought out underpinning themes that connected each of the fields. These dominant themes of awareness spread across and underpinned the larger, related conceptual fields and consequently could be found reflected across the range of outcomes in each of the phenomenological fields.

This study attempted to combine aspects of methods developed by Prosser et al and Akerlind in inter-relating the three separate domains identified by academic staff as being the most significant aspects of their working knowledge. The starting point for this second level analysis was adopting the method underpinning the ‘parts to wholes’ analysis undertaken by Prosser et al. Furthermore, a statistical analysis similar to that used in the Prosser study to explore the strength of relationships across the domains was also adopted. The way of working selected by Akerlind, which involved seeking underlying themes that extended across all of the three domains, was also adopted.

Working with a hypothesis of structure

As indicated above, following initial analysis three domains were identified as contributing to the working knowledge of academic staff. Teaching and research and a third domain, of 'institutional administration' appeared to be at the heart of the working knowledge academic staff engaged with day to day.

Part of the challenge of identifying the domain of 'institutional administration' was that it frequently overlapped with descriptions of teaching and even of research. For instance, in the same sentence interviewees would talk of engaging with a class of students and then move across to descriptions of administrative work also involved in supporting students. They would equally talk about their research and in the same breath they might discuss the mechanisms required to report that research within the university. It became clear early that there was an overlapping working knowledge relevant to teaching and research, but that there was also, beyond this, an awareness of administrative tasks as being involved in the running and development of the whole institution.

Above I described how, in the Prosser et al (2008) study, one of the mechanisms for linking phenomenal fields involved the use of the field of 'subject knowledge' as a way of connecting understanding of teaching and research. In the present study, it was hypothesised that this third domain of 'institutional administration' may act in a parallel way to the way 'subject matter' had worked in the Prosser et al study. It seemed plausible that the ways in which academic staff understood institutional administration, as working knowledge, would, in some way, connect to the ways in which academics understood their day-to-day working knowledge across teaching and research. If the domain of institutional administration was explored in terms of participants' responses — when analysed as partial and or holistic — and if this outcome was then related to a partial or holistic type analysis of the other major domains of teaching and research, it may offer some insight into how academics understood the underlying concept of working knowledge across the domains. This was the aim.

Following on from the Akerlind study (Akerlind 2008b), it was further hypothesised that there would be underpinning themes articulated by participants that connected the

separate domains and related experiences of working knowledge across the three domains. A further analysis was consequently undertaken of all transcripts that sought out such underpinning multi-phenomenal themes. The outcomes of this analysis were subsequently brought together with the parts and whole analysis described above and involved in developing insight across and into the multi-phenomenal field of working knowledge.

Identifying the structure of awareness

In the following section a more detailed explanation of the way of proceeding with the second level analysis is provided.

Prosser et al 2008 had highlighted four levels of complexity in the parts to wholes analysis. In the first, a phenomenon was understood as a series of unrelated parts. This way of experiencing the domain was identified and described as 'atomistic'. In the second, the phenomenon was experienced by linking parts of it together, but not seen as integrated in any way. This was called 'linked relational'. In the third, the phenomenon was experienced by connecting parts so that it was seen holistically and conceptually. This was called 'integral relational'. In the fourth, a phenomenon was experienced as a connected whole and as whole concepts connected with other whole concepts. This was termed 'extended abstract'.

The purpose overall of this second level analysis was to see how complete or partial academic staff saw each of the domains and how these understandings came together in the analysis. Ultimately it was hoped to develop categories of description and an outcome space for a composite domain of working knowledge itself.

Work towards this end is described below.

1) Each transcript was re-analysed and coded for each of the domains according to the part/whole distinctions of the Prosser et al study.
2) Following this initial analysis a table was built combining the structure of awareness, in terms of parts or wholes, for each of the domains. This highlighted the range of relationships across the domains.

3) Statistical analysis (Somers D) was used, in a way similar to its use in the Prosser et al study, to measure the extent to which there were relationships in the way domains were seen in terms of the parts and wholes measure.

4) A further table was constructed that highlighted the ways in which patterns, of parts to wholes, were grouped across the domains and for each of the interviewees.

These patterns were subsequently explored and discussed before descriptions of working knowledge per se were developed and presented in an outcome space.

Working with a hypothesis of 'being'

The final part of the second level analysis drew on the work of Akerlind (Akerlind 2008b) and involved probing beyond the foci in both the individual domains and the new multi-phenomenal field of working knowledge. The intention was to look for aspects of experience not typically highlighted in phenomenographic studies, such as awareness of feelings and emotions. Phenomenographic studies typically focus on the cognitive.

In this study, significant expressions of emotion were present in the interviews. This was clearly indicated in the survey of literature, which identified that academic staff are keenly aware that their day-to-day work is not as it once was and that this is an emotionally laden aspect of contemporary academic work experiences (Churchman 2006, Clegg 2008). Based on existing literature (Martin 2005, Akerlind 2007), it seemed likely that these underpinning themes would overlap into affective and personal domains, and that how academics felt about their working knowledge and issues related to their identity as working academics was likely to emerge. Although these themes were of a different order to those themes of expanding awareness most usually associated with the structured outcome space of phenomenography, it was expected that expression of these themes would parallel the expanding awareness of the outcome spaces developed for the more traditionally developed domains. It was also hypothesised that there would be a relationship between these more affect-focused themes and the existing categories and dimensions of the outcome spaces.

A significant difference in the focus on affective themes extending across domains of working knowledge, in contrast to the Akerlind study, is that this phase of the analysis was *not* used to demonstrate relationships between phenomena in the multi-phenomenal field. This was already achieved by using the steps above to establish structural relationships using a 'parts and wholes' analysis (after Prosser et al 2008). Akerlind's focus was on experiences of 'being a university teacher' and these were related to 'growing and developing as an academic'. By contrast, academics in the present study were not specifically asked about their experiences of 'being'; rather 'being' was hypothesised as being encoded into the concept of working knowledge, as indicated in the review of the literature, where working knowledge is identified as embodied knowledge — knowledge that encapsulates 'doing' and 'being', or notions of ontology and epistemology (Hager 2000, Beckett 2000).

Establishing evidence of 'being'

In consequence, it was necessary to establish whether 'being' an academic was a theme signalled by the presence of emotion in the groups of transcripts identified above.

Work to establish evidence of this theme is described below.

1) Each transcript was re-read within the context of the earlier categorisation at one of the five levels of working knowledge with a view to establishing evidence of being an academic. Self-descriptors (as academics), clusters of emotions, metaphors used to express these, as well as implied meanings of being were noted.
2) Tentative descriptions of being were identified for each of the five categories and were reviewed by asking: Is there a logical connection between this way of being and the associated form of working knowledge?
3) Aspects of meanings of 'being an academic' within the context of having working knowledge of academic practice were refined and noted.
4) Relationships of meaning across the five different categories of working knowledge were tentatively explored and developed. This was a process of refinement through iteration between individual transcripts, groups of transcripts and the transcripts as a whole.

It was subsequently established that emotions did indeed operate as sites for investigation of evidence of 'being', and the steps developed by Akerlind in the investigation of expanding awareness of aspects of themes were adapted for the analysis of aspects of 'being' an academic.

Describing aspects of 'being'

Work to establish the aspects or sub themes of being an academic, though briefly described in chapter 6, is outlined in detail below.

1) Being an academic in each group of transcripts was re-read and common elements between them noted.
2) Explicit descriptors of self and 'being an academic' were noted and sorted against common ideas/descriptors.
3) Explicit and implied meanings of 'being' were examined and common ideas linking these consolidated. Emotions associated with emerging aspects were noted.
4) Tentative descriptions of being and associated themes were identified for each of the five categories and were reviewed by asking: Is there a logical connection between this way of being and the associated form of working knowledge?
5) Inconsistent or inconclusive meanings and descriptors were explored and discussed with colleagues and supervisors.
6) Aspects of meanings of 'being an academic' and associated themes within the context of having working knowledge of academic practice were refined and noted.
7) Relationships of meaning across the five different categories of working knowledge were tentatively explored and developed. This was a process of refinement through iteration between individual transcripts, groups of transcripts and the transcripts as a whole.

Conclusion

The intention of this chapter has been to explain the ways in which this study was theorised and undertaken. The first part of the study largely follows traditional

phenomenographic ways of working. The second part, however, moves into new ways of working with phenomenographic analyses. Methods have been adapted, developed and sometimes retrofitted to deal with what proved to be a much more complex research question than was originally understood. The working knowledge of academic work is not just a multi-phenomenal field; it is a highly charged emotional area linked to the concept of identity that has been much debated in the non-phenomenographic literature. Part of the intention of this present study was to help bridge existing work on academic work and phenomenographic work on specific aspects of academic work. This necessarily involved some improvisation.

In the following two chapters the outcomes of the analyses initially flagged here are presented and commented on briefly.

Chapter 4 Findings: The domains of working knowledge

Introduction

This chapter reports the outcomes of a traditional phenomenographic analysis. At one level, it may be tempting to downplay the findings described below as pedestrian, but, as identified in the previous chapter, this important foundational work grounds this study in a tradition of thinking and working, and identifies a third key domain of academic work — that of 'institutional administration'. This, under the guise of 'admin' or 'management' has been hinted at and acknowledged in part by a number of existing studies, discussed in the previous literature review, but until now, this administrative load has not been unpacked and mapped.

As discussed in the previous chapter, at the outset it was recognised that an analysis of academics' working knowledge would require a holistic analysis and an exploration of mechanisms that account for the holistic and integrated nature of this kind of knowledge. To begin with, however, it was necessary to understand exactly what constituted the working knowledge of academic staff and this is the role of the present chapter. This initial analysis established the constituent parts of an academic's working knowledge and the range of meanings given to each of these.

In brief, this initial analysis unpacked three major domains of working knowledge, that of teaching and research and that of institutional administration. Within each of these it mapped:

- five understandings of working knowledge within the domain of teaching;
- six understandings of working knowledge within the domain of research; and
- five understandings of working knowledge within the newly established domain of institutional administration.

The focus of this chapter, in line with traditional phenomenographic studies, is the exploration of the levels of understanding within each of these domains and the relationship between them. Each domain is explored in turn. I begin with teaching, which appeared to dominate the everyday work of almost all interviewees.

Working knowledge of teaching

The interview protocol (described in the last chapter) was developed as a means of supporting interviewees to move their descriptions from the concrete to the abstract. It started by raising academics' awareness of their working knowledge of teaching and supporting, through a process of guided reflection, the development of conceptual descriptions of their working knowledge. The interview included:

- Probing questions that focused on exploring academics' understandings of working knowledge of teaching. These types of questions were mostly necessary because interviewees typically described day-to-day activities in teaching instead of their understandings of knowledge put to use in teaching.
- Requests for examples that focused interviewees' attention on their working knowledge of teaching. This aimed at bringing the tacit nature of this knowledge into awareness alongside its explicit aspects.

Categories of description developed from the data reflected the emphasis in interviews on knowledge put to use in teaching, rather than the activity of teaching itself.

Five different understandings of working knowledge of teaching were identified and described phenomenographically as categories of description. Categories were constituted from inferred meanings of working knowledge of teaching found in direct or indirect references to teaching in the transcripts. The categories identify:

- the 'what' and 'how' of working knowledge in these understandings. In these descriptions, the 'what' describes the *focus* of working knowledge of teaching, and the 'how' describes its interpretation in that context, or its *use*;
- logical relationships between the categories. Table 1 identifies these relationships at a structural level;
- an ordering from less complete understandings of working knowledge of teaching to the most complete understandings as a hierarchy. More complete understandings in this hierarchy include all understandings below it, but, conversely, less complete understandings do not include understandings above it; and

- in line with Prosser et al, (2008), a 'parts and wholes' analysis was also undertaken of each of the categories — and subsequently used to take these separate domains into the holistic analysis in the following two chapters.

In the section below, categories of description developed from the data are accompanied by extracts from the data illustrating meanings given to this knowledge.

Categories of description

Teaching category A: Picking up tips and hints

Focus on picking up teaching tips and hints, and *using* this information to get students to absorb relevant facts and information.

Teaching category B: Organising and presenting content

Focus on syllabi and lesson plans, and *using* this to organise and present it in a logical manner.

Teaching category C: Teaching in an interesting way

Focus on many teaching strategies, and *using* these to actively involve students with content.

Teaching category D: Assisting students to learn concepts and theories

Focus on understanding student learning, and *using* this to assist students to understand concepts.

Teaching category E: Working with students to question ideas

Focus on helping students to learn, and *using* this to work with students to question concepts and ideas.

Descriptions with illustrations

Teaching category: Picking up tips and hints

In category A, the focus was on picking up unrelated teaching tips and hints for use in topics and using these to get students to learn facts and information about topics.

Working knowledge of teaching was understood as knowing about discrete items that were de-contextualised from practice: as *parts (hints, tips)* to *parts (topics)*.

To illustrate:

> *You can't just give an answer straight off. That is what I have picked up on with lecturers who I have seen answer a question in a lecture theatre. A student asks a question 'Oh but what about that?... and they don't actually give the answer... that's a good idea I see now.*
>
> (13: 132)
>
> *... I would ask question about teaching. How to prepare class, how to communicate with these kind[s] of student. There is advice I know I could benefit from and could get from colleagues. If they would like to communicate with these kind[s] of knowledge and experiences with me I know that would help me.*
>
> (15: 151)
>
> *... I sort of stepped back ... [to] see how they control the class, and how they set it up and that, and so that was sort of I guess, how I picked that up. And also I mean reading, I guess, different bits of pieces out of literature and things like that. The 53 techniques type books and things like that ... just picking up bits and pieces as you go along.*
>
> (10: 94)

Teaching category B: Organising and presenting content

In Teaching category B, the focus was on syllabi and lesson plans, and using this to organise prescribed subject content into topics and subtopics and present it logically and efficiently.

This differed from Teaching category A as there was a focus on the logical ordering of ideas underpinning the subject through the organisation of content into topics and sub topics, rather than on facts and information related to topics.

Working knowledge of teaching was seen as knowing about concrete procedures and guidelines to aid practice; as *parts (syllabi and lesson plans)* related to *parts (topics).*

To illustrate:

> *… And, so, so I just sort of, sat down and did, like, little mental lesson plan., Who's my audience? What's my content? How long have I got? How am I going to … what sort of equipment? Or how am I supposed to deliver it? So I knew I had two hours of lectures and a certain number of tutes…and so I just divided it up into what was appropriate for this new form of delivery.*
>
> (14: 140)
>
> *… I had to go through the same process of finding all the information, digesting it, rewriting it into a lecture format and presenting it back to the students in a way that they would understand and it had coherence for the rest of the semester...* [1]
>
> (12: 116)
>
> *… If you want to present to the students a coherent view, it's really nice at least to have the overheads so that they're coherent, so you don't have a, you know, a 12-year-old one which is printed on an old photocopier versus, you know, a new PowerPoint one. Because the impression that gives to the students is it's a shambles. So you really do have to, I think, be coherent.*
>
> (19: 187)
>
> *Having a sense of what it is you think the students need to learn is important and getting that sorted out into a number of topics and ideas within the topics. It makes sense to see it logically and divide it up in this way.*
>
> (17:176)

[1] Note added later by participant: I think what I'm trying to say here is that I needed to know a lot of information to develop and teach 2-3 units per semester. But because when I started it was only 2 weeks before lectures commenced and it was entirely new to me, I simply did not have enough time.

Teaching category C: Teaching in an interesting way

In Teaching category C, the focus was on devising or using existing teaching strategies that could clarify or illustrate ideas related to discipline concepts and using these to teach the ideas/concepts in subjects.

This differed from Teaching category B as there was a focus on student activity in the classroom rather than teacher presentation of content to teach ideas underpinning subjects.

Working knowledge of teaching was understood as knowing about classroom management strategies; as *parts (strategies)* related to *whole (discipline).*

To illustrate:

> *Well different topics fit different teaching approaches. There are some things that I set them up with group tasks because I have learnt from experience that the best way for them to learn that is to sit around in a group task. There are other things ... bits of paper, research topic. There are others who would argue the detailed nitty gritty explanations on the board …*
>
> (17: 174)
>
> *I started to really think about how could I deliver material in an entertaining way that would keep them interested …. so I made a really conscious decision to embrace multimedia at that time. And so I started using a lot of multimedia in my lecture material. And then more recently I suppose with the internet … So I'm very interested now in finding ways of delivering materials in all sorts of different formats whether I'm delivering it in person in a lecture or online. I'm very interested in multiple delivery platforms.*
>
> (5:52)
>
> *Knowing ways you can construct a seminar or workshop with different activities … And I think that's important. You have to keep them engaged and active and thinking about what it is they are doing*

(4:38)

... content knowledge about particular subjects, also process knowledge about how people learn and different teaching and learning methods if you like … so you need to… you need to sort of read or … practise to think about all those things and try different things out in your teaching.

(6: 56)

I have ideas that ... those ideas were never necessarily based in sound educational theory ... and by doing the ... Graduate Certificate... has given me a firmer foundation to, to base my ideas on ... to develop new things that the students can do.

(1:5)

Teaching Category D: Assisting students to learn concepts and theories

In Teaching category D, the focus was on investigating theories of learning and teaching that could explain or confirm experiences and observations about student learning, and using these to develop teaching approaches that encouraged student exploration of concepts and ideas in the course.

This differed from Teaching category C as there was a focus on adopting a theoretical framework for the design and development of the course that encouraged student exploration and development. By contrast, in category C, student activity was devised within a theoretical vacuum, with an emphasis on identifying and using teaching strategies opportunistically.

Working knowledge of teaching was understood as knowing about the structure of knowledge in the discipline or field: *as parts (theories)* related to the *whole (the discipline).*

To illustrate:

I wanted to have a theory for education or theory for learning of whatever it is that they wanted to talk about ...I need to have an explanatory framework and have

examples we could explore and discuss and I felt very frustrated when it seemed that teaching was just seen to be waffling around and around and around … and not coming to grips with a theoretical base.

(14:139)

Because it's (Graduate Certificate in Tertiary Teaching) (has) given me insight into what I was doing myself to learn and seeing the types of mental approaches or types of attitudes that I myself was displaying in classes when I taught ... it's made me think about different alternatives to how different students would react, how people learn differently ... and what that means for teaching.

(1: 5)

Because I found that sometimes you can lock yourself into a teaching and learning model, and once it becomes comfortable, then you just use it year after year. So 14 years on I can be still using the same model and thinking I'm doing a good job. So, I think it's important to know who to be able to go to, to get that foundation and to really stretch yourself rather than just going on in your comfort zone.

(4: 38)

Teaching Category E: Working with students to question ideas

In Teaching category E, the focus was on developing and refining a personal theory about how students learn within the discipline through reflection and experimentation, and using this to explore approaches that challenged students to examine and critique concepts and ideas within the course and the discipline as a whole, in the context of a broader exploration of themselves as learners.

This differed from Teaching category D as there was a focus on a personally developed theory that considered discipline learning through a process of exploration and experimentation about how students learn in the discipline. Category D, by contrast, adapted existing formal theories to the demands of the discipline.

Working knowledge of teaching was seen as knowing about one's own learning in relation to students' learning and discipline theories and concepts: as *wholes to wholes*.

To illustrate:

> *Knowing where the students are, their backgrounds, what they want from the course ... even something — this is difficult for me — even knowing something about the way to go about learning as well ... so the idea of making an effort to customise your teaching to fit their particular learning sort of approaches, students have or their preferred learning ... yeah ... I mean those things are I think important.*
>
> (4:42)
>
> *What do we want the students to come out with? And I guess as I mentioned before that when you come into this place, the role of an academic changes and the knowledge base changes, the things that they have to teach changes along the way. I guess one of the biggest things we need to be able to teach the students is how to learn. We're fairly good, I think, at training students to do some, to do things, but we're not that good at educating students, as yet. I think some of your more traditional universities don't really bother that much about training students but they give them a particular education, what's good for their souls rather than rather than training them for a particular job. We have to do both.*
>
> (11:108)

Structural relationships in understandings of working knowledge of teaching in the categories are represented in Table 4.1.

Table 4.1 The what and how aspects of working knowledge of teaching

	Focus of knowledge (What)				
Intended use (Structural or How)	Tips and information	Topics	Strategies and ideas	Theory (s)	Theories and concepts
Getting information	**A**				
Organising content		**B**			
Managing teaching process			**C**		
Understanding the learning process				**D**	
Developing personal learning theory					**E**

SELF

OTHER

PARTS

WHOLES

Complexity of understandings

The analysis identified that working knowledge focused on 'parts' represented less complex working knowledge of teaching, and, at the other end of the spectrum, a focus on 'wholes' represented complex understandings of this knowledge.

- *Less complex working knowledge* in categories A and B had understandings of the working knowledge of teaching which focused on facts, hints, procedures and suggesting conceptions of teaching focused on the delivery of this as content, or 'transmission' conceptions of teaching.
- In category C, a focus on discrete ideas and concepts in the discipline suggested that these understandings might be categorised as complex. However, closer analysis identified that the complexity of understandings was superficial, that is; although there was reference to discipline concepts and what appeared to be understandings of key ideas in the discipline, understandings were characterised by their disconnection from the discipline of field of study with a focus on student activity. What was identified as necessary to know was also concrete and discrete (ideas/concepts).
- *Complex working knowledge* at the other of the spectrum in categories D and E was characterised by conceptual frameworks informed by either formal or personal theories about the nature of teaching and learning. Identified as necessary to know about teaching in these understandings of working knowledge, theories and concepts indicated a focus on student learning and therefore suggested conceptions of teaching as 'transformation' rather than 'transmission', as above. The theories identified in complex working knowledge were associated with understandings about knowledge in the discipline or field, and thus student learning in relation to these, unlike less complex working knowledge above. In category E, knowing about oneself in addition to knowing about how to support student learning of discipline theories and concepts distinguished it from Teaching category D.

Comparative findings

The analysis identified parallels with the findings of existing phenomenographic studies investigating academics' experiences of teaching. These were identified in logical connections between what academics say is necessary for them in teaching and experiences of teaching identified and described in existing phenomenographic work.

That is:

- Categories (A, B and C), identifying less complex working knowledge of teaching suggests a focus on delivering information to students in ways that are convenient to teachers. In phenomenographic studies, these characteristics are associated with teacher-centred approaches to teaching that have a focus on transmission of information. The literature review identified that the characteristics of teacher-focused conceptions of teaching are a consistent finding from multiple phenomenograhic studies. For example, a review of this work up until the 1990s on academics' conceptions of teaching confirmed that the findings from this body of work were remarkably robust, indicating that there was broad agreement about what constitutes teacher-focused conceptions (Kember 1997). Later work clarified the nature of conceptions seemingly between teacher and student-focused conceptions and confirmed that these are essentially teacher-focused in nature, despite appearing to be focused on student learning (Samuelowicz & Bain 1992, 2001).
- The foci of less complex working knowledge and the uses to which it was put, identified above, identify direct parallels with teacher-focused conceptions of teaching identified in phenomenographic studies.
- Categories D and E identifying complex working knowledge of teaching similarly have direct parallels with categories of description identifying complex experiences of teaching described in multiple phenomenographic studies. These experiences are typically described in phenomenographic work as focused on supporting student learning reflecting conceptions of learning as a transformative process. As indicated in the review of the phenomenographic literature, early work in the field identified that conceptions of learning, knowledge and teaching were internally related (Prosser 1994). In this work, complete experiences of teaching identified well-developed conceptions of teaching that included well-developed conceptions of learning. Complex working knowledge of teaching implies well-developed understandings about learning in its focus on theories and concepts. This suggests an intriguing yet logical connection between conceptions of learning in student-focused conceptions of teaching and complex understandings of working knowledge.

The parallels between categories of description for working knowledge of teaching and categories of description for student-focused conceptions of teaching typically identified in phenomenographic work suggest the two are related through conceptions of learning which vary and thus influence day-to-day practice.

Working knowledge of research

Turning now to the working knowledge of research, the analysis of transcripts showed that this domain of research working knowledge was raised by many but not all of the interviewees in the study. It was evident that research dominated the work of some academics in the study and was a significant aspect of their working lives, but did not have a strong presence in the day-to-day work of others. Overall, research was spoken about less often by interviewees than other domains.

The interview schedule, described in the last chapter, was adhered to in the conduct of interviews. However, data about working knowledge of research were sometimes only elicited following the use of prompts, examples and requests for further clarification. This was not the case with the other two domains of teaching and administration. In consequence:

- awareness of working knowledge of research was in some cases very limited;
- awareness of working knowledge of research in some cases was not based on practice, but an abstract position on research concerning what research should or could be, so examples from day-to-day practice were not elicited or were based on observed practice in others; and
- where working knowledge of research was the focus of awareness, many examples of working knowledge of research were embedded in examples in which working knowledge of teaching or administration were also cited;

The outcome of the analysis was six categories of description. As in the working knowledge of teaching described above, categories of description highlight:

- the *focus* of working knowledge of research within each category;

- the hierarchical ordering of categories identify less to more complex understandings of working knowledge in research; and
- 'parts' and 'wholes' evident in working knowledge of research within each category.

Extracts from transcripts accompany the descriptions and illustrate the focus and use of each category. However, in some cases these include a preamble indicating the context of the utterance. This was necessary because, as indicated above, the references to working knowledge of research were often contextualised in topics or issues associated with working knowledge of teaching or administration.

Table 4.2 summarises the categories as an outcome space, showing categories of description as 'parts' and 'wholes'.

Categories of description

Research category A: Add information for teaching

Focus on searching for teaching information/content and *using* this to add to existing information.

Research category B: Preparing for future research (skills)

Focus on acquiring information about research (skills and techniques), and *using* this process to prepare for doing research in the future.

Research category C: Preparing for future research (topics)

Focus on collecting ideas and issues for possible research topics, and *using* these to prepare for doing future research.

Research category D: Developing research opportunities

Focus on searching for research opportunities such as grants and projects, and *using* these to establish a research record.

Research category E: Adding to discipline knowledge

Focus on staying up to date, and *using* this to add to discipline knowledge.

Research category F: Re-thinking discipline knowledge

Focus on sharing research with peers, and *using* this to develop new discipline ideas and concepts by questioning existing ones.

Descriptions with illustrations

Research category A: Add information for teaching

This category applied to academics who related knowing about research to their teaching and actually identified this as research activity.

In Research category A, the focus was on searching from a range of sources for information relating to topics taught in subjects and using this to add interest or the latest ideas to existing subject content.

Working knowledge of research was understood as knowing about concrete facts related to discipline-based topics: as *parts (facts and topics)* related to *parts (teaching topics).*

To illustrate:

> *Research is important but what I mean by research in the sense of the subjects is that I will go ahead and read the lectures in advance and I will put my mind around it and maybe look at the internet on that particular subject and again, see if there is something that can help my students understand it a lot better.*
>
> (13:128)
>
> *… I try… I really do try to keep in touch with the literature in the subjects where I teach and I constantly revise my materials … that's just an ongoing research process …*
>
> (5:53)
>
> *I have gotten used to that idea of finding information out of my subject but again, relating it back... and letting my students even know about it... 'Look at this website, you should have a look at this particular URL and see what you think comes out of that and relate it back to the subject that we are doing' or something like that.*
>
> (13:128)

Research category B: Preparing for future research (skills)

In Research category B, the focus was on acquiring discrete research skills and techniques and other information relevant to research, and using this to demonstrate planning for future research activity.

This differed from Research category A as there was a focus on research as a discrete activity requiring specific skills, rather than as indistinguishable from the concept of teaching.

Working knowledge of research was understood as knowing about specific skills and possible topics: *as parts (skills, techniques)* related to *parts (specific research activities).*

To illustrate:

> *… and I suppose it also means knowledge if you are doing research about how to do research, where to find and how to source materials, where to find to submit articles for publication ... that sort of thing.*
>
> (5: 48)
>
> *'I have to get myself to the point where I'm ahead with all my lectures so I can use that time to do research ... go for research grants and all of that sort of stuff … because that will help me I think …'*
>
> (12:115)
>
> *Research just doesn't land on your lap. You have to have networks and you have to have knowledge about networking. Research proposal writing — grant writing, you know — whether it's a small one or a large one. So there's that, that whole area of not just how do you research and what different methods do you research, but there's the, yeah, I call it the entrepreneurial knowledge.*
>
> (6: 56)

Research category C: Preparing for future research (topics)

In Research category C the focus was on collecting ideas and issues for future research topics, and using these to prepare for research focused on possible research activities.

This differed from Research category B as there was a focus on developing ideas and topics for future research, rather than acquiring specific skills, techniques and gathering information for future research.

Working knowledge of research was understood as knowing about ideas and issues, though unrelated to the discipline; as *parts* (*skills, techniques*) related to *parts (topics)*.

To illustrate:

> *Well, I suppose in the tertiary environment you are expected to do the research and I was totally unprepared for those sorts of requirements. And I did… put it off for a very long time. I think it was for mostly a lack of an idea about what I might get involved with or develop.*
>
> (14:139)
>
> *Yeah, and I think what I need ... like if I found out I was permanent tomorrow, then I would be making a lot more effort to ... I think what I would be doing is trying to get my head around getting that research profile organised …*
>
> (12: 119)
>
> *Yes, I do see research as a component of my working knowledge and it is something I try to keep up with, especially by attending conferences ... [a research topic] ... It could be something like engineers don't like to write, so how do you inspire engineers to write? What are the possibilities of the subject to encourage writing?*
>
> (8:79)

Research category D: Developing research opportunities

In Research category D, the *focus* was on searching for research opportunities such as grants and projects and *using* these to establish a research record.

This differed from Research category C as there was a focus on demonstrating research skills and performance, rather than on collecting topics and ideas to get started.

Working knowledge of research was understood as knowing about research opportunities in the discipline: as *parts (grants/projects)* related to the *whole (discipline).*

To illustrate:

> *You have to have networks and you have to have knowledge about networking ... research proposal writing, grant writing — you know ...'*
>
> (6:56)
>
> *So it's knowing what's going on, having your finger on the pulse in a broad sense.'*
>
> (19:193)
>
> *Research is incredibly specialised and narrowly focused ... otherwise you don't get anywhere ...*
>
> (16:160)
>
> *Well, you have to be in the world so in that sense, what is the point of doing what I do if I'm not out in the world to understand and think about how that world operates as a consequence? ... I feel I experience myself as a fully developed academic when I'm at conferences or at seminars at other institutions or at, you know, in a variety of environments, I feel less like an academic when I am actually here.*
>
> (7:69)
>
> *I've got skills in terms of I can now write something and get it published. They're skills that you need to learn ... you need to go through that process of sending stuff off with rejection to sort of learn ... to learn the strategies ...*
>
> (18: 178)

Research category E: Adding to discipline knowledge

In Research category E, the focus was on staying up to date. This was used to add to discipline knowledge.

This differs from Research category D as there was a focus on knowing about the field or discipline, rather than on counting the products of research.

Working knowledge of research was understood as knowing about the discipline as whole: as *wholes (discipline)* related to *parts (concepts).*

To illustrate:

> *So I need, specifically in terms of research, I need to know current scholarship in my field. I need to be able to have some sense of new and developing scholarship and criticism and there are practical ways you develop that, whether it's through reading journals or through attending conferences and seminars and colloquia.*
>
> (7: 66)

> *You have to have an understanding of what's happening in the field. And that has to be — particularly in the research setting — has to be up to the minute or as close to it as you can.*
>
> (10: 93)

> *The knowledge base has come principally because having worked in research you're expected to have a knowledge base there in your discipline because it impacts on the work you're doing ... the decisions you make in research and, I guess, in a more, in the academic sense in writing papers and things like that … you have to have an understanding of what's happening in the field … and that has to be — particularly in the research setting — has to be up to the minute or as close to it as you can ... because of the actual process of being involved with research and having to I guess interpret the results you're collecting and constantly comparing them to work that's been previously done things like that the knowledge base is maintained there ...*
>
> (10:93)

Research category F: Re-thinking discipline knowledge

In Research category F, the focus was on knowing about influences on research in the discipline/field and using this to develop and re-think research directions. This differs from Research category E as there was a focus on reconceptualising knowledge in the discipline and related fields rather than on contributing to what was already known.

Working knowledge of research was understood as knowing about the discipline in relation to others: as *wholes (disciplines*) related to *wholes (disciplines).*

To illustrate:

> *Whereas once upon a time it was how many publications have you got, it is now what research grants have you brought in and then what publications flow from those and what connections have you got into industry and development what does that do for the field. So that is crucial so even though many of the traditional academics are resisting that move … that is where it's heading. It's thinking of research in terms of what it makes possible rather than just as an end in itself.*
>
> (20:207)
>
> *Part of this is (research politics) is actually driven by the university; part of it's also driven by, external forces that the government is putting on people. The pressure of requiring, more and more funding externally is telling on academic life ... it wasn't around when we first started ... but it can make you think strategically about where to put your creative endeavour and where to focus and how to join forces with other teams so I wouldn't say it's all bad. It pushes you in different ways*
>
> (11: 101)
>
> *In my case, I did a Ph. D which looked at Australian cricket ... so it was very much practical sort of Ph. D ... that was important then for me to understand the context to all of that and be able to bring that back (into the university) ... So I'm, now concerned through this early work of mine to connect into other areas and communities and think across disciplines and help overall to improve*

understanding and incite across fields. So it's not a myopic sort of thing where you go inside yourself, inside your school ... it's one where you have to go outside....

(4:38)

Table 4.2 The what and how aspects of experiencing knowing about research

	Focus of knowledge (What) →					
Intended use (How) ↓	Facts, information	Techniques, skills	Ideas, issues, topics	Grants, projects	New and emerging discipline or field of knowledge	Developing new discipline, or field knowledge
Add information for teaching	**A**					
Preparing for future research (skills) Preparing for future research (topics)		**B**	**C**			
Developing research opportunities				**D**		
Adding to discipline knowledge					**E**	
Rethinking discipline knowledge						**F**

SELF ↓ OTHER

PARTS ↔ WHOLES

Complexity of understandings

The analysis identified variation in the complexity of working knowledge of research ranging from less complex understandings of 'parts' to complex understandings as 'wholes'. Table 4.2 summarises the range.

- *Less complex working knowledge of research* was characterised by working knowledge that could develop research skills and focus for the researcher. That is, these understandings identified the absence of research in the usually accepted sense, an understanding about an 'ideal' that was difficult to attain, and a focus on immediate tasks and/or preparation for future research. In category A, there was awareness of this working knowledge in academic work, but acknowledgement that it was focused on knowledge for use in the classroom and as an adjunct to teaching. In categories B and C, there was a focus on preparing for future research and acknowledgement that it was not possible to meet the requirements of academic work because of a lack of skills or opportunities.

  In category D, there was also a focus on acquiring skills for the future, though at first glance it appeared to represent more complex understandings than other categories above. However, the focus of this category was also researcher-focused. This working knowledge was used to develop skills in obtaining grants and projects with the intent of developing a reputation as a researcher in the future.

  The focus on 'parts' in these categories identified incomplete understandings of disciple 'rules' and conventions for research. That is, these understandings did not locate research within a discipline or field of practice. The broad foci of these understandings suggested researcher-focused research in which generating knowledge in the discipline or field was not understood as the outcome of research.

- *Complex working knowledge of research* in categories E and F was characterised by a focus on working knowledge that could develop knowledge in the discipline or field. In category E the focus was on being up to date while in category F it was on re-thinking knowledge and moving across and between disciplines. This working knowledge included knowledge of the discipline and field and the 'rules' and conventions, though its focus was to develop

knowledge. That is, 'rules' and conventions were a means to an end, not an end in themselves, as in category D above.

Well-developed understandings of the discipline and the field were identified in the focus on 'wholes' in these categories. There was a broad focus on knowledge-generation, rather than the researcher in these understandings.

Comparative findings

Variation in working knowledge of research suggested parallels with academics' experiences of research described in existing phenomenographic studies. The review of selected phenomenographic studies identified a small, but growing number of investigations into academics' experiences of research that, when analysed, describe common elements in these experiences (Akerlind 2008a). An analysis of academics' experiences of research in light of these common elements, described four experiences:

1) fulfilling academic requirements with a focus on meeting job requirements;
2) establishing oneself in the field with a focus on becoming known or recognised in the field;
3) developing oneself personally with a focus on personal understanding; and
4) enabling broader change, with a focus on developing personal understanding and wider society.

These suggest logical connections with understandings of working knowledge described above. Category 1 above appears to have parallels with working knowledge in categories A, B and C; category 2 with working knowledge in category D; category 3 with working knowledge in category E, and category 4 with working knowledge in category F. The parallels between category 1 and working knowledge in categories A, B and C suggests that category 1 experiences of research focused on meeting job requirements may contain sub-categories or comprise other experiences of research currently not described. The experiences of research described above were developed from data obtained from experienced researchers, while the categories of working knowledge reflect data collected from experienced and non-research-active academics. This suggests the existence of another category or categories of experiences of research reflecting understandings of research among non-active researchers.

Working knowledge of institutional administration

The working knowledge of institutional administration was spoken about, unprompted, by all interviewees in the study, though the analysis identified variation in the meanings given to it. The analysis identified that this was separate from working knowledge of teaching, research and service, though it was often spoken about with reference to these functions. That is, it was identified as necessary to know in its own right in order to work on these other core academic tasks. Moreover, the analysis identified that this was understood as *institutional* administration, and it reflected understandings about the operations and functions of a complex organisation.

Data about this working knowledge were elicited using questions specified in the interview schedule. Questions seeking clarification and requests for examples of this working knowledge were used as devices throughout the interviews to focus attention on the nature and scope of this knowledge. These devices were necessary because interviewees referred to this institutional administration aspect of working knowledge throughout interviews, but often in the same breath as comment and discussion around the other domains. The initial challenge was unpacking the focus of this knowledge and how this varied across and between academics within the sample.

Five categories of description were eventually developed. The categories of description are outlined below and summarised in Table 3. These describe:

- The 'what' and 'how' of working knowledge of institutional administration. In these descriptions, the 'what' describes the *focus* of working knowledge of administration, and the 'how' describes its interpretation in the institutional context via the *use* it is put to in day-to-day work;
- Variation in understandings is ordered as a hierarchy from less to most complex working knowledge of institutional administration;
- Understandings of the operations and functions of the organisation in working knowledge of institutional administration are identified and described as 'parts' and 'wholes'.

- Extracts from transcripts accompany descriptions and illustrate the focus and use of each category. Preambles are used to contextualise extracts. This was necessary because;
    - references to this working knowledge were dispersed throughout the transcripts; and
    - interviewees frequently resumed discussion about their working knowledge of administration at different points during the interview.

Categories of description

Institutional administration category A: Understanding what is expected

Focus on getting information and guidance addressing immediate concerns and *using* this knowledge to complete tasks arising in the immediate context in an *ad hoc* manner.

Institutional administration category B: Meeting institutional requirements

Focus on meeting institutional requirements and procedures and *using* this knowledge to complete required tasks in an efficient manner in the immediate context.

Institutional administration category C: Influencing local cultures

Focus on individuals with decision-making power shaping the local teaching and research cultures, and *using* this knowledge to make strategic decisions that influence the conditions of work in the immediate context.

Institutional administration category D: Contributing to institutional decision-making

Focus on decision-making structures shaping institutional teaching and research cultures and *using* this knowledge to contribute to policy implementation in the institutional context.

Institutional administration category E: Interpreting external trends

Focus on external policies and trends shaping institutional teaching and research cultures, and *using* this knowledge to develop institutional directions with reference to the external context.

Table 4.3 The what and how of working knowledge of institutional administration

	Focus of knowledge (What)				
Intended use (How)	Specific university functions	Institutional procedures and guidelines	Key decision makers in the immediate context (informal)	Formal institutional decision making structures	System-wide external policies and trends.
Complete unrelated tasks	**A**				
Meeting institutional requirements		**B**			
Influence implementation of procedures			**C**		
Understand and interpret policies				**D**	
Responses to external demands					**E**

SELF

OTHER

PARTS

WHOLES

Descriptions with illustrations

Institutional Administration Category A: Understanding what is expected

In Administration category A, the focus was on getting information and advice about specific university requirements, and using this to lessen anxiety about institutional expectations for work in the immediate context.

Working knowledge of administration was understood as having access to information from contacts in the administration that assisted in the performance of discrete tasks as *parts (contacts)* related to *parts (tasks)*.

To illustrate:

> *... they take us all together, the ones who are teaching that particular subject ... And I like that, it's structured. I like that because they are telling me what they want, exactly what they want right down to the details of completing forms ...*
>
> (13:126)

> *I have been the third year co-ordinator for a year and that has been a big learning curve just to find out the processes that go on and I keep hassling the 'walking body of knowledge' as they call him. Approving graduate forms, what happens is that none of them are ever straightforward and then I have to know how to proceed then and every one seems to be different.*
>
> (3:26)

> *I think that the biggest problems I have are with administration issues. I have found that when I arrived here there was no orientation. It was basically, here is an office, here is your phone number and off you go and we want you to do whatever. What I have found is that, for all the time I have been here, I feel that I am on a rolling, that I just roll from one place to another and half the time I don't know what I'm doing. Either you do it right or you get into trouble.*
>
> (2:14)

> *Also changes to administrative structures ... who does what ... that changes every day ... you ring up and you find out that no, so and so is not doing that now, its not our job, blah … blah ... blah ... so those things ... communication ... is a necessity ... so we need to know who to contact for the different aspects of this stuff ... and without that you are really stuck.*
>
> (9.89)

Institutional administration category B: Meeting institutional requirements

In Institutional administration category B, the focus was on knowing institutional procedures and guidelines relating to institutional work practices, and using this to meet requirements by completing tasks efficiently.

This category differed from Institutional administration category A as there was a sense of knowing about the organisation and the systems within it.

Working knowledge of administration was understood as knowing about systems comprising procedures relating to routine tasks arising in day-to-day work; *as parts (procedures and guidelines)* related to *parts (required institutional tasks).*

To illustrate:

> *So having an idea how administration works in that setting is quite useful because for two things. If you know what's going on, you don't have to go ask. And also to just make sure you know, things are carried out appropriately so there are no problems when the student gets down the track, 18 months, two years' time.*
>
> (10: 98)
>
> *I know ... I know how the processes work, how the pieces of paper have to flow around in the system, so I know that ... I know what I have to do to complete that form and the sorts of things I'm looking for to make sure a student has… is eligible to graduate and then I know that I need to return this paper to this particular person in the faculty office. So understand the paper flows …*
>
> (14: 136)
>
> *Well I think it (working knowledge) means knowledge about processes and procedures within the University systems ... without that you're stuck.*
>
> (5:50)
>
> *... and at one point I was able to intervene and actually shift the direction of something because I had read the regulations. I had read the regulations and I was on top of them. I knew the paper work and I was able to say that in fact you know, X conditions haven't been met for the award and therefore that person was ineligible. Now that was a triumph for me ...*
>
> (7:75)

Institutional administration category C: Interpreting requirements

In Institutional administration category C, the focus was on individuals with decision-making power in the local context influencing conditions under which teaching and research were conducted, and using this to shape the conditions of work in the local context.

This category differed from Institutional administration category B as the institution was understood as systems involving people rather than as procedures and guidelines.

Working knowledge of institutional administration was understood as knowing how to influence decision-making at the local level relating to the conditions of work such as workloads, status and rewards: *as parts (individuals such as managers) related to wholes (institutional policies).*

To illustrate:

> *... you need to know a lot about the, uh, politics of what goes on inside the system here, because as a, as an academic, I'm also an administrator … and getting things done means working with people within systems and knowing how they are likely to respond.*
>
> (1: 3)
>
> *Then there's knowledge of how to survive in the management culture, how to get the resources that I need to do the job, how to get out of doing things that I don't want to do. For this you need to know who to get on side as well as how to attend to it within the system.*
>
> (17: 167)
>
> *... you also need to know the chain of command, who the actual lecturers are, who the course co-ordinators are because you need to talk to them ... who the year co-ordinators are, so you really need to know the whole network ...*
>
> (8:77)

> *I got to develop knowledge and insights about management and about processes of how things are managed and about the way in which managers minds work, which were critically important for me in developing an understanding of how the institution worked and how I might work within it ....*
>
> (7:67)

Institutional administration category D: Contributing to decision-making

In Institutional administration category D, the focus was on knowing about the formal decision-making structures within the organisation, and using this to understand and interpret institutional systems of procedures and guidelines.

This category differed from Institutional administration category C, as people within formal university governance structures were understood as making decisions for the university as a whole.

Working knowledge of institutional administration was understood as knowing about institutional systems of decision-making that influenced aspects of work: *as wholes (institutional decision making structures)* related to *parts (local cultures influencing teaching and research).*

To illustrate:

> *Some committees where there are policy developments then I think, yes, that is certainly functioning as an academic because I'm contributing to the structures and the environment and the settings that make it possible for us to do certain kinds of work.*
>
> (7:69)
>
> *I've got an interest in ethics ... Human research ethics ... I've been a longstanding member of the ethics committee ... I'm happy to put time into this ... if I'm to influence this in a systemic way then I need to work in this way.*
>
> (16:165)

Look, I've been on committees and I've been on academic boards. I was on Academic Board for a semester and I got bored. I got bored and disillusioned. Because very quickly, I saw that, or what I think is, a lot of sort of self-interest, being handled at that area. The way that our university is structured is a very, I think, a very hierarchical structure. The people, the power relationships between people of Academic Board are such that really, I think that it's pretty pointless a lot of the actual discussions. I had an idealistic view of the sort of discussion that would go on at this level, but in the end it wasn't high-level discussion. It was the same self interest I am familiar with everywhere in the university.

(6:61)

Institutional administration category E: Interpreting external trends

In Institutional administration category E, the focus was on knowing about external policies and trends that influenced institutional decision-making, and using this to integrate teaching and research into a personal response to these demands.

This category differed from Administration category D, as the organisation was understood as part of a larger system that supported knowledge generation and dissemination nationally and globally, with institutional governance systems part of this effort.

Working knowledge of institutional administration was understood as knowing about institutional systems and processes in relation to external systems and processes: *as wholes (institutional structures and processes) related to wholes (system level processes and structures).*

To illustrate:

… and people who make a contribution are just crucial because it's the contribution to the field, the school, the centre to the whatever that are really important and many academics think that isn't why they're here, that they're there

as a researcher, but you have to do those other things too. This is what being collegiate is about.

(20: 211)

One of the things that I said to the staff about my role was to keep staff informed about what was going on around the wider university community. A little bit to a certain extent, externally and I encouraged staff to actually be involved in some of the university and faculty committees. Because there are some changes in process that you can only … make through those committees and understanding of those committees.

(11: 107)

And what I think frightens me — scares me even — is to think that I could become so sort of microscopically involved in some administrative issue, which would be OK, maybe, for the school, but wouldn't enhance my research or teaching abilities. So, in terms of knowledge, yeah I think the knowledge ... is both knowing about your research and knowing about that outer world and also knowing about the culture you're working in. You need it all ... You have to bring all of that with you as an informed academic.

(4:40)

Complexity of understandings

Complex and less complex experiences of institutional administration, identified in Table 4.3 above, were differentiated by relationships between parts and wholes found in the analysis. Less complex experiences were focused on *parts* while more complex experiences were focused on *wholes*. The wholes in more complex experiences were the institution itself (Institutional administration category E) and the national/global tertiary system (Institutional administration category F). In these experiences, practices associated with the 'other' were informed by knowledge about the institution as a whole — the purpose of work outside of teaching and research was understood in relation to each of these aspects of work and efforts were made to integrate all of these aspects.

By contrast, in less complex experiences the knowledge informing practices associated with institutional administration were focused on partial understandings about the institution and what was expected in academic work. In Institutional administration category A, practices were informed by knowledge gained in a piecemeal manner about specific functions related to tasks requiring immediate attention. In these experiences, there was little understanding of what was expected in administrative work, beyond attending to the immediate piece of paper, and this work was compartmentalised from teaching and research. In Institutional administration category B, however, what was expected was better understood because of some knowledge about institutional procedures and guidelines. Having said this, there was not a clear awareness concerning how these procedures related to university systems and how these where central in the core functions of teaching and research. In Institutional administration category C the knowledge underpinning the institutional administration was also limited. The focus here was often on people within the system, but always on attending to that part of the system, be it person or process, that would support them personally in their bid for prestige and power. The focus was not on understanding the systems within the university and how these contributed to core work, even though this was sometimes a side-product of the main concern of seeking personal advancement.

In categories E and F, however, the systems within the university were seen as a whole. The procedures relating to systems were understood not just as tasks to be completed, but as data to support the smooth running of some system and the decision-making bodies within the university, both managerial and collegiate were understood and assessed in terms of their capacity to support the smooth running of a complex organisation and its national and international role in education and research.

The connections between teaching, research and institutional administration and their integration into day-to-day work was a characteristic of academics' who worked at levels D and E, with a holistic appreciation of the university, its core business and the systems that supported its day-to-day running and its broader development within the community and the nation. But the integration of these fields is the focus of the following chapter and is explored in detail there.

Comparative findings

Phenomenographic studies:

The analysis identified no direct parallels with findings of existing phenomenographic studies and the working knowledge of administration — that is, phenomenographic descriptions of academics' experiences of institutional administration.

- However, the literature review emphasised the assumption in phenomenographic work that experiences of a phenomenon are experienced in a context. In phenomenographic work, experiences are understood from a non-dualistic stance in which knowledge of the internal and external worlds are indistinguishable, and thus an experience of a phenomenon is an experience of knowing about the world. From this perspective, the phenomenographic descriptions of academics' experiences of their teaching and research are ways of knowing about these phenomena in the world.
- The literature review also identified phenomenographic studies directly investigating academics' perceptions of the context of teaching and research. Lindblom-Ylanne et al 2006 for example, investigated factors in immediate context and the influence of disciplines on approaches to teaching. Other work identified in the review implicated these perceptions in experiences of teaching-related phenomena such as changing teaching practice (Light & Calkins 2008), dissonance in teaching (Postareff et al 2008), and developing as a teacher and researcher (Akerlind 2008b).
- It is clear from the work highlighted above that academics' perceptions of the context of their work — the institution itself — is influential in shaping conceptions of and approaches to teaching and research. The findings of the present study support the position that academics' perceptions of the context of their work underpin and inform experiences of teaching and research. That is, variation in academics' working knowledge of administration, which identify understandings about the institution's structure and purpose, appear to have logical connections to variations in academics' experiences of teaching and research that reflect perceptions of factors in the context of their work.

Non-phenomenographic studies:

Studies from non–phenomenographic perspectives, reported in the literature review, identified a range of responses to managerialist cultures among academics, suggesting that experiences of the institution itself are varied. For example, work by Churchman (2006, 2009) described types of resistance to managerialist work demands, and the emergence of different practices and identities in response to these. Similarly, work by Henkel (2005) and Clegg (2008) identifies multiple practices and identities arising within institutions in response to institutional discourses that require performative practices and, as a result, more administration associated with institutional performance measures in day-to-day work. They argue that academics' responses to these vary according to how they see themselves as academics — whether they accept or absorb administration into their day-to-day work and see it as an academic function. The present study that highlights the different ways in which academic staff understand and address institutional administration is clearly relevant to these non-phenomenographic studies.

Conclusion

The findings of the first level analysis were descriptions of the variation in the meanings given to the constituent parts of working knowledge by academics in the study. These, identified as the domains of teaching, research and institutional administration, showed variation in meaning given to day-to-day work and in particular the extent to which that work was understood only partly, as bits and pieces of administrative tasks, and the extent to which it was understood more fully as a part of a more essential and significant 'whole' such as an integrated assessment system or the development of a key concept within a discipline, for instance.

An important aspect of the analysis in this chapter was the identification of connections between the findings reported here and the findings of existing phenomenograhic studies investigating academics' experiences of teaching and research. Variations in working knowledge of the domains matched varying levels of sophistication in conceptions of teaching and research described in this literature and strongly suggested that the phenomena are related.

Of equal significance, however, is the present study on 'working knowledge' of academics clearly fits within the broader literatures on working knowledge and academic practice. The identification and description of the domain of institutional administration as a third key aspect of academic working knowledge, together with teaching and research, is especially significant and is discussed in more detail in the final chapter.

The following chapter takes the three domains identified through analysis in this present chapter and explores the ways in which individual academics work as a whole across the domains of teaching and research and institutional administration. Chapter 5 looks at the extent to which individual academics operate day-to-day at different levels across the three domains and consequently construct their own complex working knowledge.

Chapter 5 Findings: Relationships between the domains of working knowledge

Introduction

In the first layer of analysis examined in the previous chapter, the working knowledge around teaching, research and administration was explored as being constituted in separate domains. Each domain was seen as a part of the working knowledge of academic staff, but it was described and explored separately. In the second layer of analysis, which is the focus of the following two chapters, these three separate domains are brought together in two different ways.

The value of the initial phenomenographic analysis to this process of bringing together was in the identification of a common structure of phenomena across the multi-phenomenal field of working knowledge. This structure, expressed as ranging from 'atomistic' to 'holistic', was identified in each of the three domain as 'parts' and 'wholes' in an approach adapted from the work of Prosser et al (2008). Tantalising glimpses into how meanings of learning, work, knowledge and identity came together to form working knowledge were evident in the structure of meanings given to each domain, and these propelled an investigation of the structural similarities between the domains. This — the analysis of structural similarities between the domains — is the essence of the analysis described below.

Whilst the essence of the analysis described below was on structural similarities between the domains, its focus was on the meanings given to knowledge of teaching, research and institutional administration and, in total, how these comprised meanings given to academic work itself. Academics' knowledge of work and its constituent parts is essential, as was indicated in the Literature Review, to understanding the nexus between knowledge, learning and identity that has been described as being at the core of the concept of working knowledge (Symes and McIntyre 2000). In the chapter that follows, the importance of the working knowledge of institutional administration in the construction of this knowledge is described as it unfolded in the course of the analysis.

Just as the findings of the initial phenomenographic analysis offered glimpses of how working knowledge of academic practice was structured and constructed within the

domains, so the findings described below highlighted the ways in which knowledge itself was understood and positioned within and across the domains. The structural analysis undertaken in this chapter was particularly apt for investigating how academic staff understood what constituted knowing and knowledge within and across the domains of academic work

The structural analysis, though holistic in its intent, was undertaken in four stages:

1) **Mapping categories of description in the domains**
   The focus of categories of description in each domain was mapped, identifying their position on a spectrum from 'atomistic' to 'relational' (after Prosser et al 2008).

2) **Measuring the strength of structural relationships between pairs of domains**
   The strength of the structural relationship between pairs of domains was measured using the Somers' D statistic.

3) **Patterns of structural relationships between all domains**
   Patterns across the three working knowledge domains in each transcript were analysed by (a) mapping the highest structural element (expressed as 'parts and wholes') in each domain found in each transcript, and (b) identifying groups of transcripts with common parts and wholes patterns, or structural relationships. .

4) **Descriptions of variation in working knowledge of academic practice**
   Consistent approaches to both the meaning and the use of working knowledge within each group of transcript were identified in a re-analysis of each group of transcripts. Descriptions of approaches to working knowledge across all domains were developed and graphically represented.

The results from each stage of the analysis are outlined below.

Results

Mapping categories of description in the domains

Identifying and mapping the focus of categories of description in each of the domains on a spectrum from 'atomistic' to 'holistic' was the first step taken in establishing the structure of working knowledge of academic practice.

As reported in the last chapter, these categories described less complex to more complex meanings of working knowledge of teaching, research, and institutional administration. In each domain these reflected varying foci on aspects of work from the atomistic (immediate work tasks) to the holistic (integrating local, institutional and external systems). Structural similarities between the domains were established using the definitions developed by Prosser et al (2008) in the development of a six-part spectrum describing structural elements of a phenomenon. These, outlined below, formed the basis of the classification and informed the development of a multi-dimensional outcome space in which categories for all domains were mapped. In this classification, the elements of the spectrum were interpreted as such:

1) 'Parts': working knowledge in a domain is concrete and taken for granted and seen as consisting of independent parts linked to individual work tasks in the domain.
2) 'Parts to parts': working knowledge in a domain is concrete and taken for granted, but seen as a series of parts or tasks in the domain that were related to other parts or tasks in the domain.
3) 'Parts to wholes': working knowledge in a domain is a concrete and connected structure or system regulating work in the domain, with parts or tasks in the domain related to the whole structure or systems.
4) 'Wholes to parts': working knowledge in a domain is relational and seen in terms of a whole structure or system regulating work in the domain made up of constituent parts or tasks in the domain.
5) 'Wholes': working knowledge in a domain is relational and seen in terms of a whole structure or system regulating work, with the parts or tasks and activities reflecting the nature of the whole structure or system.
6) 'Wholes to wholes': working knowledge in a domain is relational and open to change, and seen in terms of whole systems or structures regulating work in the domain that are related to other wholes or other structures and systems regulating work in other domains.

As identified in the table below (Table 5.1), it appeared at first glance that it was likely that the focus of the domains would be consistent when they were combined. For

example, if read vertically, the table suggested five possible ways in which working knowledge could be constructed by bringing the domains together. In this interpretation there was one variation for each element of the spectrum, with each of these having a consistent focus on one of the following: 'parts', 'parts to parts' 'parts to wholes', wholes to parts', 'wholes' and 'wholes to wholes'.

However, a review of transcripts indicated that this was a misleading view of the ways the majority of academics in the study brought working knowledge of the domains together. It appeared that consistency in levels of complexity of the domains was linked to the variation in working knowledge. This notion that consistency (or not) of structural elements explained variation in working knowledge was the working hypothesis that drove the analysis from that point.

Table 5.1 Parts-and-wholes analysis of working knowledge in each domain

	Structure				
Domain	Atomistic focus		Linked relational focus	Relational focus	
Working knowledge of	Parts	Parts to parts	Parts to wholes	Wholes to parts	Wholes to wholes
Teaching	**A**	**B**	**C**	**D**	**E**
Research	**A**	**B, C**	**D**	**E**	**F**
Administration	**A**	**B**	**C**	**D**	**E**

Measuring the strength of the relationships between pairs of domains

The hypothesis that an explanation for variation in working knowledge was related to consistency of focus in the domains was first explored by measuring the strength of the relationships between the domains using a statistical measure. This process started with mapping the highest category of description for each of the domains in each transcript.

An association between the domains of teaching and research was expected as there is growing empirical research indicating connections between experiences of these academic activities (for example, Prosser et al 2007, Akerlind 2005). However, relationships between these domains and the domain of institutional administration are

not established empirically in previous research, so the analysis turned, after an examination of the teaching/research pairs, to examining the structural relationship between this domain and each of these.

The strength and direction of the relationship between pairs of domains was measured using the Somers' D statistical measure. This bivariate statistic provides a measure of association between two ordinal variables and takes into account tied values. The highest category of description for each of the three domains in each transcript was coded in terms of its parts-and-wholes classification and cross-tabulated in pairs: teaching and research, teaching and administration, and research and administration. Tables 5.2, 5.3 and 5.4 show the results from each cross-tabulation. The level of Somers' D provides a measure of the strength of association between two ordinal variables. A value of greater than 0.70 suggests a strong association, between 0.30 and 0.70 a moderate association and less than 0.30 a weak association.

Table 5.2, teaching and research, shows a moderate, positive and statistically significant association with a value of 0.572. That is, this analysis suggests that knowledge 'put to use' in teaching and in research were structurally related.

Table 5.2 Structural relationship between teaching and research

Teaching / Research	Parts	Parts to parts	Parts to wholes	Wholes to parts	Wholes	Wholes to wholes	Total
Parts		5					5
Parts to parts		3	2		1		6
Parts to wholes							0
Wholes to parts					2		2
Wholes		2		2			4
Wholes to wholes					3		3
Total		10	2	2	6		20

Somers' D = 0.572, $p < 0.001$

Tables 5.3 and 5.4 show the structural relationship between teaching and administration and between research and administration. The association within each of these pairs was found to be strong, positive and statistically significant. That is, the analysis suggested a structural relationship between working knowledge of teaching and working knowledge of administration (D = 0.708) and between working knowledge of research and working knowledge of administration (D = 0.768).

Table 5.3 Structural relationship between teaching and administration

Teaching / Admin	Parts	Parts to parts	Parts to wholes	Wholes to parts	Wholes	Wholes to wholes	Total
Parts		5					5
Parts to parts		2			1		3
Parts to wholes		3	2				5
Wholes to parts				2	2		4
Wholes					1		1
Wholes to wholes					2		2
Total	0	10	2	2	6		20

Somers' D = 0.708, $p < 0.001$

Table 5.4 Structural relationship between research and administration

Research / Admin	Parts	Parts to parts	Parts to wholes	Wholes to parts	Wholes	Wholes to wholes	Total
Parts	5						5
Parts to parts		1			2		3
Parts to wholes		5					5
Wholes to parts				2	2		4
Wholes						1	1
Wholes to wholes						2	2
Total	5	6	0	2	4	3	20

Somers' D = 0.768, $p < 0.001$

The structural relationships found between pairs of working knowledge domains raised questions as to the nature of the interrelationship. In particular, the strong structural relationship between the teaching and institutional administration domains and between the research and institutional administration domains suggests a central role for the working knowledge of institutional administration in the construction of working knowledge of academic practice.

Patterns of relationships between all domains

An explanation for variation in working knowledge appeared, from the statistical analysis, to be located in the consistency or otherwise of structural elements of the domains. This was further explored by moving beyond pairs of domains to patterns of structural elements across all three domains. In this process, patterns in individual transcripts were examined with special attention to the domain of institutional administration, its complexity and positioning. The mapping exercise reported in Table 5.5 was, as in the analysis of the pairs of domains, the basis of this activity.

As indicated in Table 5.5, the degree of consistency between structural elements across the three domains varied between transcripts. In five transcripts (2, 8, 9, 12 and 13), there was a consistent focus in all three domains on ‘parts’, and these were located in the less complex zone of the parts-to-wholes spectrum characterised by ‘Parts’, ‘Parts to parts’ or ‘Parts to wholes’. This pattern is labelled as the ‘Parts pattern’ in Table 5.5. There was also consistency in another three transcripts (4, 11 and 20), where the focus was on ‘wholes’, and these were located in the more complex zone of the spectrum characterised by ‘Wholes to parts’, ‘Wholes’ and ‘Wholes to wholes’. This pattern is labelled as ‘Wholes pattern’ in Table 5.5.

However, for the majority (12) of transcripts, there was no such consistency and these are labelled as ‘Mixed pattern’ in Table 5.5. As indicated there, these patterns included domains in the ‘parts’ zone of the spectrum, and some in the ‘wholes’ zone. Whereas the consistent patterns above clearly identified the level of complexity of working knowledge overall, these patterns were less easy to understand. So for example, patterns

in which all domains were located in the ‘parts’ zone clearly indicated less complex working knowledge overall, and patterns where all domains were located in the ‘wholes’ zone clearly indicated complex working knowledge. However, patterns in which one domain was in the ‘wholes’ zone and the rest were in the ‘parts’ zone raised questions about whether the highest or the lowest levels of complexity determined the overall complexity of working knowledge overall.

The transcripts were grouped in response to these questions, so that differentiation between patterns was obvious. This was undertaken by mapping the highest parts-to-wholes classification for each transcript, irrespective of domain. New patterns were revealed and are reported in Table 5.6, which identifies the groups when the transcripts were re-ordered using the single highest parts-to-wholes classification.

Table 5.5 Parts-and-wholes patterns across domains

Transcript	Administration		Research		Teaching		Parts-and-wholes pattern
	Category	Parts-and-wholes	Category	Parts-and-wholes	Category	Parts-and-wholes	
2	A	Parts	A	Parts	B	Parts to parts	Parts pattern
8	A	Parts	A	Parts	B	Parts to parts	Parts pattern
9	A	Parts	A	Parts	B	Parts to parts	Parts pattern
12	A	Parts	B	Parts	B	Parts to parts	Parts pattern
13	A	Parts	A	Parts	B	Parts to parts	Parts pattern
1	C	Wholes to parts	D	Wholes to parts	D	Wholes	Mixed pattern
3	C	Parts to wholes	C	Parts to parts	B	Parts to parts	Mixed pattern
5	C	Parts to wholes	B	Parts to parts	B	Parts to parts	Mixed pattern
6	C	Parts to wholes	B	Parts to parts	C	Parts to wholes	Mixed pattern
7	B	Parts to parts	E	Wholes	B	Parts to parts	Mixed pattern
10	C	Wholes to parts	D	Wholes to parts	D	Wholes	Mixed pattern

14	C	Parts to wholes	C	Parts to parts	B	Parts to parts	Mixed pattern
15	C	Parts to wholes	B	Parts to parts	C	Parts to wholes	Mixed pattern
16	C	Wholes to parts	D	Wholes	D	Wholes to parts	Mixed pattern
17	B	Parts to parts	B	Parts to parts	D	Wholes	Mixed pattern
18	B	Parts to parts	D	Wholes	B	Parts to parts	Mixed pattern
19	C	Wholes to parts	E	Wholes	D	Wholes to parts	Mixed pattern
4	D	Wholes	F	Wholes to wholes	D	Wholes	Wholes pattern
11	E	Wholes to wholes	F	Wholes to wholes	D	Wholes	Wholes pattern
20	D	Wholes to wholes	E	Wholes to wholes	E	Wholes	Wholes pattern

Key:

Parts pattern: Consistent focus on ‘Parts’, ‘Parts to parts’ or ‘Parts to wholes’ across domains
Mixed pattern: No consistent focus across domains
Wholes pattern: Consistent focus on ‘Wholes to parts’, ‘Wholes’ and ‘Wholes to wholes’ across domains

Table 5.6 demonstrates that there is substantial variation in parts-to-wholes classification across transcripts, with every possible classification in the parts-to-wholes spectrum being found. The table also shows that there is considerable consistency in parts-to-wholes classification across domains for most (17/20) of the transcripts, where all three domains are found in two contiguous parts-to-wholes classifications. The variation in parts-to-wholes classification is expressed in Table 5.6 as 'Parts-and-wholes span' and for these 17 transcripts this has a value of 2. This suggests that there may be underlying common structural features of working knowledge across domains for these individuals. But there are also three transcripts with a span of 4, suggesting that for these individuals there is less consistency in the structure of working knowledge across domains.

This table also suggests that there are five different groups of transcripts, distinguished by the highest parts-to-whole classification for the transcript and the parts-to-wholes span for the transcript. The five groups are:

Group 1: Highest classification is 'Parts to parts', span is 2.

Group 2: Highest classification is 'Parts to wholes', span is 2.

Group 3: Highest classification is 'Wholes', span is 4.

Group 4: Highest classification is 'Wholes', span is 2.

Group 5: Highest classification is 'Wholes to wholes'; span is 2

The next stage in the analysis was to turn once more to the transcripts for explanation of these differences, but this time to examine these five groups of transcripts in an effort to identify the features of working knowledge that are consistently found within a group, but that differ between groups.

Table 5.6 Parts-and-wholes elements across domains

Transcript	Parts	Parts to parts	Parts to wholes	Wholes to parts	Wholes	Wholes to wholes	Highest parts-and-wholes classification	Parts-and-wholes span	Pattern
2	A, R	T					Parts to parts	2	1
8	A, R	T					Parts to parts	2	1
9	A, R	T					Parts to parts	2	1
12	A, R	T					Parts to parts	2	1
13	A, R	T					Parts to parts	2	1
3		R, T	A				Parts to wholes	2	2
5		R, T	A				Parts to wholes	2	2
6		R	A, T				Parts to wholes	2	2
14		R, T	A				Parts to wholes	2	2
15		R	A, T				Parts to wholes	2	2
7		A, T			R		Wholes	4	3

17		A, R			T		Wholes	4	3
18		A, T			R		Wholes	4	3
1				A, R	T		Wholes	2	4
10				A, R	T		Wholes	2	4
16				A, T	R		Wholes	2	4
19				A, T	R		Wholes	2	4
4					A, T	R	Wholes to wholes	2	5
11					T	A, R	Wholes to wholes	2	5
20					T	A, R	Wholes to wholes	2	5

Descriptions of variation in working knowledge of academic practice

This part of the analysis focused on the structure of working knowledge across domains in the five groups of transcripts identified in the previous stage on the basis of parts-to-wholes patterns. The aim was to develop descriptions of working knowledge across domains for each group of transcripts, with attention on the foci of the working knowledge and how the foci were understood. The process involved iterative examination of the groups of transcripts and the transcripts as a whole.

From this analysis, five experiences of working knowledge were identified based on the five groups of transcripts. These were named Fragmented, Procedural, Selective, Consistent and Integrated working knowledge. Descriptions of each experience of working knowledge are provided below, illustrated by extracts from the transcripts that highlight the foci of working knowledge and how it was understood in each pattern.

It has been difficult to find quotes that succinctly express what is here argued to be the focus of working knowledge. An interviewee's response is typically expressed across an interview rather than in one or two specific extracts. The consequence is that in this section in particular, where the integrated category of working knowledge is explored and explained, quotes have sometimes been cut and pasted together to provide a succinct insight into a category.

Fragmented working knowledge

The focus across domains was on local and immediate demands. In terms of the institutional context, the focus was on the immediate administrative task to be completed, the form to be filled, the boxes to be ticked or the list to be compiled. While 'Parts' was the dominant classification in this group, 'Parts to parts' also occurred and here there was some acknowledgement of where these tasks come from and their purpose. This applied, for instance, to knowing who is enrolled, who attends or the other subjects that students study. However, any larger reason or purpose was not generally acknowledged. For this reason, the structural awareness of what was going on was limited to local and closely associated components.

In the teaching domain, for example, the focus was on the subject or section that was being taught and the group of students being taught. Teaching was seen as the transmission of factual information and a major concern was how to do this. How students processed this information was apparently non-problematic. At this level there was little attention to the selection of relevant content because content was seen as pre-defined. Similarly, in the research domain members of this group used language associated with 'research talk' within the institution, but their working knowledge focused on seeking out relevant information for inclusion in their teaching, which they called 'researching' their subject.

The consequence of working day-to-day with this type of working knowledge was that these staff members felt continually stretched and underprepared. They did not understand fully how to function in any of the domains or how the structures that might support that level of functioning were constructed. They could therefore often neither predict nor question much of the work that came their way. They felt that the demands made on them were unreasonable and, in part at least, this can be argued to be a consequence of their limited knowledge of the larger structures and purposes that determined that work. They were continually reacting to what happened around them and this was exhausting and demoralising for them. In summary, their focus was on accumulating pieces of information required for the tasks they were required to perform.

> *I had to go through the same process of finding all the information, digesting it, rewriting it into a lecture format and presenting it back to the students in a way that they would understand and had coherence for the rest of the semester. I was trying to basically get my head across three content areas, all the recent research, and represent it as a lecture kind of material ... I was often barely one week ahead ... and on top of everything else, the admin and… well, it was impossible.*
>
> 12: 117
>
> *The only reason for that [marking attendance] is that if they have not attended my workshops or my tutorials and they are getting an extremely high mark in this subject, how do I know where they are getting their information from? OK? I will either have a word with that student and say 'You know, you have really gone well*

in this assignment, how did you go about doing that? I mean, you haven't really attended my tutorials. Have you been reading at home, what have you been doing?'

13:128

I think you need to know the technical information about the university and how it works and what the kinds of things and the way a course works, but it is daunting to find out that ... ... and how and who to do this stuff... ...What do you do for evaluations for instance — is there a university wide evaluation ... ... and all of that sort of stuff....

12:112

Procedural working knowledge

The focus of the working knowledge in this group was primarily on knowing procedural requirements so that work was more efficient. The requirements of the university, and particularly those of the faculty or school, were at the heart of the working knowledge of this group. However, their understanding of the traditional core business of teaching and research was limited.

For example, in the administrative domain where working knowledge was classified as 'Parts to wholes', administration was understood in terms of the immediate organisational unit such as the school and sometimes the faculty, but not the whole university. Knowing about these local systems was seen as important in order to manipulate them. However, while interviewees could to some extent see the structure and purpose of the whole system, they had limited understanding of the whole. In the teaching and research domains, the dominant classification was 'Parts to parts' and the pattern was therefore similar to the previous group. The focus was on getting tips or hints that help the teacher transmit information. As in the case above, the selection of content was not an issue to be discussed or raised as a problem. Working knowledge for research consisted largely of knowing how to seek out new content matter for teaching, which again was called 'researching' for their subject.

The overall consequence of working day-to-day with this pattern of working knowledge is that these members of staff were good at 'working the system' within their local work

context. They tended to know what was required and understood the 'language' of those requirements in terms of administration and general bureaucratic demands. They coped well, day by day, so long as major re-organisation or re-positioning did not occur. They viewed their familiarity with local administrative requirements as a significant personal achievement.

It was just a matter of sitting down and thinking, what, who is my audience? What am I supposed to do, what is the content? I'm still largely content driven. I teach mainly first-year students ... I'm in a very vocational professional area, so it is content driven. And, so — I just sort of, sat down and did, like, little mental lesson plan. Who's my audience? What's my content? How long have I got? How am I going to present? What sort of equipment? How am I supposed to deliver it? So I knew I had two hours of lectures and a certain number of tutes — and so I just divided it up into what was appropriate. Once you've done this it's easy to think through.

14: 144

I'm not really all that good at it [research], ...it's still not something that really interests me and I think that's the key, you have to be interested in it before you'll go out and seek the knowledge. And so I still don't have the real interest in seeking out that information, but I do know that it's something that is expected of me and that — even just to keep my job I'm going to have to, sort of, spread my wings.

14: 144

It [information] should have come from management — it should have, but in practice it didn't, so I made it my business to find out — so I would then challenge the Head of School with a range of issues. Nowadays I have a very rich understanding — I think probably of all academics in the [discipline] area. I've become now a resource person for my colleagues — they come to me when they want to know how to deal with a particular problem. So certainly with plagiarism and collusion, with failed assessments, incomplete assessment, almost everyone in the [discipline] area would run it past me before — they certainly wouldn't refer anything to the disciplinary committee without running it past me first and saying

"How should I deal? What do you think? How should I deal with this? What forms do I have to fill out? What's the process?"

5:51

Selective working knowledge

In this group of three transcripts there appeared to be a wide range in the classification of working knowledge across the three domains. The common factor was a focus on 'Wholes' in either the domain of research or the domain of teaching and a classification of 'Parts to parts' for the domain of administration and the remaining domain. This pattern suggests a selective approach, with concentration on developing working knowledge in a single domain at the expense of developing working knowledge in the other two domains. What is also striking is the consistent lack of focus on organisational administration.

In the dominant domain, attention was paid to developing disciplinary concepts and key ideas associated with these. If the dominant domain was research, the discipline was understood as a whole and the emphasis was on furthering knowledge in the discipline or field through engagement with discipline colleagues. These academics tended not to identify with the institution and were more at home with discipline colleagues, whether they were located at the university or not. The low level 'Parts-to-parts' classification for working knowledge of administration reflected a focus on minimal requirements to support activity in the dominant domain, such as negotiating ethics approval or course approval at a faculty level. Knowledge of the whole organisation — its functions, structures and systems — was not considered necessary by members of this group for undertaking work in their favoured domain.

Thus, what appeared at first blush to be an inconsistent grouping can be seen as representing a category of academics who have in common a strong commitment to a single domain and who work within the organisation in different ways to maintain that commitment. Their awareness of, and attention to, organisation-related knowledge seemed to be almost strategically avoided.

It does annoy me, this distinction of research active, I think you should be scholarly active. I could not be a teacher if I was not scholarly active. Some people . . . because they're not critical, they're not reflective, they just generate material. I think — it's utterly wrong for a university of this nature to have taken that path.

17:170

My particular interests are actually about the political impact of certain kinds of literary practices — and what's the point of the politics but the text and the politics of representation and the production of the literary — if you're not out there thinking about issues of social impact and power and the relationship between power and knowledge and so forth, . . . well, you have to be in the world so in that sense. What is the point of doing what I do if I'm not out in the world to understand and think about how that world operates as a consequence?

7:69

I think [there's] just a huge amount of administration because I have graduate studies now and the faculty — there's just a lot of committee work and I see that as, you know, some committees where there are policy developments then I think, yes, that is certainly functioning as an academic, because I'm contributing to the structures and the environment and the settings that make it possible for us to do certain kinds of work — so then I feel as if I'm doing the business, what I call the business end of being an academic, and those are rewarding, but I never [sit on committees].

7: 69

I must have seen 10 strategic plans that have not yet impacted on the day-to-day operation of what I do or what course people do, so my strategic plan is do the best you can with what's available ... so they don't impact on me at all ... I know they are not going to affect me on a day-to-day basis so I don't pay too much regard to them basically.

17: 170

Consistent working knowledge

In the fourth group, the focus was on aligning working knowledge to meet institutional demands. Attention was paid to the two core domains of teaching and research, with the third domain of administration supporting effort in the other two. All four transcripts included a relatively high 'Wholes to parts' classification for working knowledge in the domain of administration. This group differed from the previous group in that the classification of all three domains was more consistent. No domain was dominant in terms of its structural complexity, suggesting potential for the integration of the three domains.

In the domain of administration, knowledge of academic committees and formal university processes was seen as important to influencing the context of work in both teaching and research. There was, however, little interest in extending this influence beyond the school or faculty. The 'parts' in the local context were seen as more important for getting work done in teaching and research than the system as a whole. Similarly in the research domain, attention was paid to applying discipline concepts in different ways and contexts or to developing the discipline through the generation of new knowledge. In teaching, there was an emphasis on student learning and supporting students to understand the key concepts of the discipline.

The working knowledge of this group appeared to be both more balanced and more complex than that of the previous group. Overall, academics in the group worked at attending to issues in all domains. As a consequence, they appeared less single-minded and less driven to achieve personal success as academics.

> *What they should be coming out with, if you are talking about students here — well, they have to learn in the discipline. By learning the discipline they will learn how to learn in the future — in that discipline — and that's absolutely vital. The second area that I am really interested in pursuing is learning off my students. Very often I'm in closer contact with them than I am with other academics. I'm in a lucky situation there again in that the students are actually working in the industry while they're studying with me, so I am in a very fortunate position. It's a huge advantage. And what would I learn from the students? Well I learn a whole lot of*

things. I learn what they do in their day-to-day work, which really brings to life some of the concepts that I've got — where we should be going in teaching and research.

16: 166

It's [Graduate Certificate in Tertiary Teaching course] been fabulous for me. Because it's given me not only an insight into what I was doing myself to learn ... It's made me think about different alternatives to how different students would react, how people learn differently. I think it's given me the vocabulary and the, kind of, the insight that you're looking for to further knowledge about how to help people when they learn in a different way than I myself learn.

1: 6

The knowledge base has come principally because, having worked in research, you're expected to have a knowledge base there in your discipline because it impacts on the work you're doing. The decisions you make in research and, I guess, in the academic sense in writing papers and things like that. You have to have an understanding of what's happening in the field. And that has to be, particularly in the research setting, has to be up to the minute or as close to it as you can. Whereas perhaps more so if it's being applied to a teaching setting, quite often it doesn't actually have to be quite as current because of the actual process of being involved with research and having to, I guess, interpret the results you're collecting and constantly comparing them to work that's been previously done — things like that the knowledge base is maintained there, and that sort of keeps you on top of that. That knowledge is maintained I guess, on a personal level in the fact that you retain that and you use it for yourself, you do not have to share or convey that knowledge to a great extent to other people.

10: 93

You need to know a lot about — what goes on inside the system here — because as an academic, I'm also an administrator, because I've got to know a lot of administration to do as a course director. So besides all of the what you might assume was the standard thing, there's a lot of peripheral things — there's areas of

expertise above and beyond what anybody can get purely by being a great researcher or anything like that.

1: 3

Integrated working knowledge

For this group of transcripts, the focus of working knowledge in all three domains was on 'Wholes' or 'Wholes to wholes'. This group placed a high priority on understanding the conceptual frameworks underpinning their work. In addition, perhaps as a consequence of this, the members of this group also tended to integrate their working knowledge across the three domains, resulting in an integrated conception of academic practice. This was manifest in the group's capacity to work strategically within and beyond the university in the areas of research and teaching. Their working knowledge frequently crossed faculty and disciplinary boundaries.

Their working knowledge of research included a deep understanding of the discipline, including of key issues and of key researchers, as well as a sound knowledge of trends influencing the funding of research in the discipline. Academics in this group had personal theories about the value of research in their discipline and were able to position their work within wider discipline knowledge structures. Their knowledge of the discipline also informed their teaching, with their subject matter being understood as a whole rather than as separate topics and seen as dynamic rather than pre-determined or prescribed. As a consequence, their teaching was informed by an interest in how students learn concepts and develop disciplinary ways of thinking. Their working knowledge of research and teaching was integrated with their organisational knowledge. This included an understanding of the governance and management structures beyond the school or faculty, and often beyond the university to the wider system. Knowing about institutional academic decision-making and management processes was seen as important for making linkages across the institution and beyond. Institutional policies and strategic directions framed their knowledge of and participation in school or faculty level decision-making.

Overall, this group demonstrated the highest level of working knowledge in terms of its structural sophistication. Their working knowledge included knowledge of how to

integrate the three working knowledge domains. Unlike the Consistent working knowledge group above, the academics in this group had reconciled complex work demands by integrating teaching, research and administration. Their teaching interests were closely aligned with their research interests through a focus on discipline concepts and theories.

What do we want the students to come out with? And I guess the role of an academic changes and the knowledge base changes, the things that they have to teach changes along the way. I guess one of the biggest things we need to be able to teach the students is how to learn. We're fairly good, I think, at training students to do things, but we're not that good at educating students, as yet. You're not just teaching them how to use this as software. You're teaching them broader principles. So that when they leave and they go out into the workplace, they're able to pick up some other new packages as they come along and be able to learn how to use them.

11: 108

Research is important, but as an academic, to call yourself an academic and never teach, I think it's a contradiction, because with research you're developing or improving your actual body of knowledge, which is fine, but you're not really connecting with people in a way that you do as a teacher with students, or the way they might be inspired. So for me that's being a good academic, actually you can get students to get enthused about something and to say 'I want to follow up, do a bit of my own research'. Yeah, I think it worries me when, there are people around who say 'I only research'. [That's] how I see the university, how I then translate my own teaching or my own work practice I suppose. The research is important; in my experience, the teaching is more fundamental.

4: 45

... this role is actually quite different to a straight academic one. I have a chance now of ensuring that stuff is taken up, so you are straddling a barbed wire fence, dealing with research and you have to be intimately involved with the researchers to understand what they are doing, but also the other side of the fence. It is quite

different and it's a hybrid type of position and it is not one that many people would want to do or would be able to do because you are having to liaise so closely with industry. You could not do this job not having been an academic. You couldn't have an industry person doing it because (a) they need to understand the research and (b) they need to understand the researchers and that is crucial.

20: 208

I'd hate to be teaching in an environment where research was discouraged, because in my case, I've been able to integrate the two quite well by doing research and then recycling into a subject or a course. So I think it informs to both. Your research can inform your teaching too. But as well as that, your teaching is also informs your research by giving you ideas and getting student feedback on the way your teaching and learning is. But also, the other one is also this industry link again. If you can get, I think that's important.

4: 38

One of the things that I said to the staff about my role was to keep staff informed about what was going on around the wider university community. A little bit to a certain extent, externally, and I encouraged staff to actually be involved in some of the university and faculty committees. Because there are some changes in process that you can only… make through those committees and understanding of those committees. I use the analogy that staff probably don't mind being hit over the head if they know why they're being hit over the head and what's coming. And the only way they're going to know that is not to remain insulated within the school, but to actually face the wider community, the wider university community as to why are these things coming up. You've got advanced knowledge that they're coming up; you also know why the university's put some procedures in place. That's important, because this is one way of actually trying to minimize the discomfort the staff feel. I'd like them to feel less of, well not less of a victim, they know they are victims, but they, I also want them to know why they are victims. And what's caused the situation. And I think they'll be much happier if they do.

11: 107

Outcome space

A summary of the descriptions is represented in Table 5.7 below, which resembles an Outcome space typically arising from phenomenographic analysis. However, representation of the results in this form differs from a more traditional Outcome space because it reflects the multi-phenomenal nature of working knowledge. In this, two related foci — knowledge and the domain or domains — are identified, as are the ways these, in combination, were interpreted in day-to-day work. In the table:

- the structural aspect identifies the foci of working knowledge in day-to-day work: knowledge and the domain (s); and
- the referential aspect identifies how these foci, in combination, were interpreted in day-to-day work.

As indicated in the descriptions above and summarised in the table, there was simultaneous awareness of all three domains of working knowledge in day-to-day work, but there was variation in the emphasis placed on these. This varied from a focus on the teaching domain in Fragmented working knowledge to a focus on all three in Integrated working knowledge. In addition, there was a focus on knowledge, but this also varied from a focus on parts or pieces of information in Fragmented working knowledge to a focus on multiple theories and concepts in Integrated working knowledge.

These foci, in combination, were interpreted differently in day-to-day work. As indicated in Table 5.7, academic practice was interpreted in Fragmented working knowledge as the collection of information and facts about teaching, while at the other end of the spectrum, it was interpreted as the re-thinking and re-conceptualisation of processes and systems that support work. In the middle of the spectrum, academic work was interpreted varyingly as the administration of teaching (Procedural working knowledge), the demonstration of performance in teaching or research (Selective working knowledge) or as working across teaching and research (Consistent working knowledge). Knowledge of the institution and its administration is, as illustrated, integral to these interpretations.

A critical finding from the analysis was the influence of working knowledge of institutional administration on how academic practice was interpreted in day-to-day

work. The analysis of patterns of the domains identified that the structural complexity of this domain, relative to the structural complexity of the others, influenced how practice was interpreted in day-to-day work. Where it was either at the same level of complexity or more complex than the teaching domain, as in Fragmented and Procedural working knowledge, practice appeared to be interpreted as a teaching-focused activity. Where it was at the same level of complexity or at a lower level of complexity than teaching, as in Consistent and Integrated working knowledge, practice appeared to be interpreted as a holistic activity incorporating teaching and research. In the case of Selective working knowledge, where institutional administration was consistently less complex than either teaching or research, it appeared that practice was interpreted either as teaching-focused or research-focused, depending on the priority. The different ways that teaching and research were brought together (or not) were identified in the positioning of this domain in patterns of working knowledge.

Table 5.7 also illustrates the relationship identified between understandings of knowledge itself and the focus of day-to-day work. These understandings of knowledge ranged from knowledge as information in less complex working knowledge to knowledge as theories and concepts in more complex working knowledge. So, a focus on knowledge as information is associated with a focus on teaching in less complex working knowledge, while knowledge as theories and concepts is associated with a focus on teaching in the context of research or vice-versa in complex working knowledge. A focus on knowledge as application is associated with a focus on either teaching or research, but neither is likely to be strongly related to the other in working knowledge between these extremes.

Table 5.7 Outcome space showing referential and structural aspects of working knowledge

	Focus of knowledge (What) →				
Intended use (How) ↓	Pieces of information T & IA	Structured information IA & T	Concepts and ideas T or R	Established theories All domains	New theories and concepts All domains
Information about tasks in Teaching	Fragmented				
Information that can be applied to procedures about Teaching		Procedural			
Ideas that can be applied to selected systems relating to Teaching or Research			Selective		
Theories that can be applied to systems and processes influencing Teaching or Research				Consistent	
New theories and concepts about complex systems and processes about teaching and research					Integrated

Conclusion

The analysis reported in this present chapter has examined working knowledge across the three domains identified in the first layer of analysis — teaching, research and institutional administration. It suggests variation in understandings of knowledge within and across these three domains of working knowledge. The analysis established that academics have simultaneous awareness of these three domains, but the complexity of

their working knowledge varied both in terms of its structural complexity (parts-to-wholes) and the relative emphasis placed on the three domains in day-to-day work. However, irrespective of the variation in structural complexity or emphasis, it also suggests a possible mediating role for working knowledge of institutional administration in bringing the other domains together in day-to-day work.

All academic staff participating in this study demonstrated some variation in the level of structural complexity in their working knowledge across the three domains (Table 6). For most, this variation was minimal (two contiguous categories for all those classified as demonstrating *Fragmented, Procedural, Consistent* and *Integrated working knowledge*) but for those classified as demonstrating *Selective working knowledge* the variation in level across domains was more substantial. This group was characterised by a Parts-and-wholes span of four categories with a single domain of working knowledge demonstrating a much higher level of structural complexity than the other two domains. This may well reflect the complexity of the working knowledge required to do that work and a strategic choice by these individuals based on the academic work that they preferred to do. It reminds us that the lesser variation found in other groups may also reflect the strategic choices of the academics in those groups.

The identification of levels of structural complexity in working knowledge may be seen as reflecting more general understandings of knowledge that underpin working knowledge. At the highest category of *Integrated working knowledge*, with its emphasis on wholes, the structure of working knowledge is apparently based on understandings of knowledge as theoretical and conceptual. At this level, the systems and process knowledge required for academic practice exist, but arise from a broad understanding of this practice based on theories and concepts. One result of this is that connections between the domains are consolidated in day-to-day work. At the other end of the spectrum, with its emphasis on parts, the structure of working knowledge apparently reflects understandings of knowledge as information. At this level, *Fragmented working knowledge* consists of facts, hints and tips, and few connections are made in day-to-day work between the domains or within them. Between these extremes, with mixed emphasis on parts and wholes, are the categories of *Procedural, Selective* and *Consistent working knowledge*. These three categories reflect understandings of

knowledge that vary from a collection of facts to ideas to theories, but with an emphasis on the application of knowledge to practice. In these three categories, the connections made between domains varied according to the focus of the application.

A focus on variation in the structural complexity of working knowledge raises questions of epistemology. The parts-and-wholes classification is a blunt instrument for analysing of the structure of knowledge, but it provides some indication of the understandings of knowledge that underpin working knowledge. The parts-to-wholes spectrum probably reflects a more fundamental spectrum that ranges from a focus on information through a focus on ideas to a focus on theory in academic work.

This analysis reflected what academics *do* in their day-to-day work. The descriptions of working knowledge identified what academics know in order to do teaching, research and administration, and the ways they understand, prioritise and bring together working knowledge of the three domains in order to conduct their work as academics. As they stand, the descriptions offer significant insight into the experiences of working knowledge and in many ways answer the question posed at the beginning of this study, namely: What is the working knowledge of academic staff? It suggests that working knowledge is essentially about more general understandings of knowledge interpreted into practice.

However, because of the focus on what is done, the descriptions limit insights into how this knowledge is experienced as embodied knowledge, a critical aspect of working knowledge (Symes & McIntyre 2000, Usher 2000). The next chapter reports on the findings of an analysis of this aspect of working knowledge.

Chapter 6 Findings: Being an academic with working knowledge

Introduction

The analysis reported in the previous chapter, at one level, answered the initial question framing the study, but did not explore all of the critical aspects of working knowledge. In particular, it did not and could not explore the notion that working knowledge is embodied knowledge attached to the concept of 'being' as well as the concept of 'doing' (Barnett 2000, Symes & McIntyre 2000). As explained in the literature review, the idea that working knowledge involves a coming together of both 'who we are' and 'what we know' is integral to recent definitions of the concept of working knowledge. These definitions emphasise working knowledge as a concept that connects knowledge about 'doing' within a specific context and environment to intangible and tacit knowledge of the self and of 'being'. It also resonates with discussions about academic work that relate working as an academic to the formation of academic identities. (Churchman 2006, Archer 2008 and Malcolm & Zukas 2009).

In consequence, the final analysis of this study focused on developing a description of 'being an academic' and structurally relating this to the five different levels of working knowledge proposed in the previous chapter. The work of Akerlind (2003) is particularly relevant here. This phenomenographic study explored academics' experiences of 'being' by investigating their experiences of growth and development as university teachers. As indicated in Chapter 2, Akerlind's work was vital in inspiring and guiding this additional perspective on the relationship between 'being an academic' and the 'working knowledge of academic practice'.

Akerlind (2008b) explored multiple related phenomena and brought these together as a multi-phenomenal field encompassing being an academic and engaging in academic work. These included experiences of growing and developing as a university academic and the experience of being a university teacher. In order to do this, she developed a thematic approach that built on phenomenographic analysis so that comparisons across similar phenomena could be made. In brief, Akerlind pioneered a method that explored structural relationships between categories of description in the identification and description of key aspects of variation between them. In this study, however, this thematic method of Akerlind's work was not used to bring together the separate

phenomenal fields of teaching, research and institutional administration. Rather, in the present study, this work was done with the aid of the parts-and-wholes analysis developed by Prosser et al (2008). But the Akerlind's work was the key to exploring the associated phenomenon of 'being' an academic with working knowledge.

A significant difference to be noted between the present work and that of Akerlind is that experiences of 'being a university teacher' were identified and described in the Akerlind study as a discrete phenomenon based on specific questions asked in the interviews. This was subsequently related to experiences of the phenomenon of 'growing and developing as an academic'. In the present study, by contrast, questions about 'being an academic' were not specifically asked in the interview; rather, 'being' was hypothesised as being encoded into the concept of working knowledge, as explained in Chapter 3 of this thesis. In consequence, the initial focus of the thematic analysis was to establish evidence of 'being' an academic and its relationship to doing and knowing academic work and also to seek out and unpack further themes underpinning the notion of 'being' an academic.

A significant aspect of Akerlind's work for the present study was that she flagged that emotions were commonly expressed by academics, particularly when they talked about their experiences of 'growing and developing as a teacher' (2003), which were related to experiences of 'being a university teacher' and 'being an academic'. In this study, however, emotions are not explicitly explored as a distinct 'theme' in their own right, though they are drawn into an overall summary of 'being an academic'. Metaphor within the transcripts was also found to flag evidence of emotions and statements of being, so it was also used to guide the initial exploration and analysis of statements about 'being' an academic.

Here, it must be re-emphasised that the transcripts had already been sorted into five different categories of working knowledge based on the second level (parts-and-wholes) analysis. The focus of the thematic analysis in the present study was to identify evidence of 'being' and themes that underpinned 'being' within each of the five pre-defined categories of working knowledge. The steps below give an account of how the search for evidence of 'being' was undertaken.

1) Each transcript was re-read within the context of the earlier categorisation at one of the five levels of working knowledge.

2) Explicit descriptors of self and 'being an academic' such as *'I'm just a teacher*', '*an academic here has to…', 'sometimes it seems I'm just a...*' or '*I am the administrator for this subject'* were noted within each transcript.

3) Clusters of emotions associated with each category of description that seemed to suggest ways of being were noted. For example, expressions of anxiety and confusion about what was expected, or expressions of contentment and satisfaction were noted.

4) Explicit and implied meanings of 'being' located in transcripts in each of the five categories of working knowledge were interrogated by asking: 'What is at the core of what it is to be an academic in these statements?' and 'What emotions and knowledge about academic practice are associated with this?'

5) Tentative descriptions of being and associated themes were identified for each of the five categories and were reviewed by asking: 'Is there a logical connection between this way of being and the associated form of working knowledge?'

6) Inconsistent or inconclusive meanings and descriptors were explored and discussed with colleagues and supervisors.

7) Aspects of meanings of 'being an academic' and associated themes within the context of having working knowledge of academic practice were refined and noted.

8) Relationships of meaning across the five different categories of working knowledge were tentatively explored and developed. This was a process of refinement through iteration between individual transcripts, groups of transcripts and the transcripts as a whole.

Results

Being an academic in each of the five categories of working knowledge

As indicated above, the expression of emotions was identified as a site for further investigation of 'being' an academic within each of the five categories of working knowledge. A summary of being an academic within each of the five categories of working knowledge is provided below. To highlight variation between the categories,

this is followed by an illustrative extract from the interviews, together with a more developed comment on being an academic in each form of working knowledge.

Fragmented working knowledge

Being an academic is an ideal, not yet achievable (referential).

The role involves teaching and trying to discern and keep across the demands of the university and of students (structural).

Emotions: insecure, uncomfortable.

Procedural working knowledge

Being an academic is an unachievable ideal (referential)

The role involves knowing and managing the requirements of the university (structural)

Emotions: comfortable, cynical.

Selective working knowledge

The academic ideal is a myth (referential).

The role involves working out what is required by senior managers to succeed and meeting those requirements (structural).

Emotions: satisfaction, sometimes frustration.

Consistent working knowledge

Being an academic involves demonstrating expertise within all aspects of the academic role (referential).

This involves confronting and exploring problems and issues in every aspect of day-to-day work (structural).

Emotion: confidence, self-assurance.

Integrated working knowledge

Being an academic is to develop and integrate knowledge across all areas of academic work (referential).

This involves supporting academic staff to be open to change (structural)

Emotion: confidence, commitment, optimism.

Illustrative extracts follow for each of for the five different working knowledge categories.

Fragmented working knowledge: the academic ideal postponed

> *I see myself maybe going in that direction [academic]. I would like to do that. I see that academic equals teacher plus researcher, plus thinking and working in your own time and expressing this in papers — and that is an ideal. But for me now, academic equals teacher — and responding to what the university wants and what students want — that is my role. Outside of that is the time I spend getting to know what to do and get information around administering and knowing what to do when problems arise. So, I sometimes see, describe myself as an academic but I'm not — I'm not full-time in the sense of the term. I am not here all the time and don't have a room to myself and no support. So for me academic is an ideal but it's not me — right now. (Transcript 13)*

Being an academic is an ideal (not yet achievable) because of issues relating to lack of time, lack of accommodation and lack of knowledge. Currently, the role involves teaching and trying to discern the requirements and needs of the university and of students. Emotions are strong and dominated by feelings of insecurity and uncertainty (reflecting distance from being a real academic).

Procedural working knowledge: the ideal is abandoned

> *If you're a coordinator of a reasonable size course as I am — it's easily — a 50 to 60-hour week, the majority of my energies at work is in that area. It's as a consequence of being a teacher and being an administrator that students come and seek advice, or put something to you about, you know, an alternative to the way things are going because it will help them out of a particular situation. And you have to know the ropes and what will be acceptable. As coordinator it's not just students, but other staff and admin as well. They all want you — and once you do it OK then you're seen as having this [expertise] and you're given more of this — and the sort of knowledge where you might sit and think and write and explore and*

> *reflect, about either big or small ideas, is not for me a reality. I don't get that — and frankly, I think, it is very rare to find academics who spend even a third of a 50-hour a week doing 15 to 20 hours of thinking, writing. I don't see it here. The work that gets done in that area (research), is generally only squeezed in. (Transcript 6)*

Being an academic is an (unachievable) ideal that is regretfully abandoned. Currently the role involves knowing the requirements of the university, both who has to be attended to and what the procedures say and working out what has got to get done in the limited time available. Emotions relate to being comfortable about managing the situation, but being cynical about the expectations.

This *Procedural working knowledge* group differs from the *Fragmented working knowledge* group in that although the academic role is still seen as 'an ideal', here it is an unachievable ideal, whereas in the previous group it is not yet achievable, but may be at some time in the future. The focus on what the role involves differs from that in the first group. Here in the *Procedural working knowledge* group, the requirements are known and it is working out how best to manage them that is the focus. Emotion here is demonstrated with expressions of some satisfaction at managing the day-to-day situation, but frustration overall at never moving beyond this (also reflecting distance from being an academic).

Selective working knowledge: the ideal is strategically interpreted

> *You come in and you have a level of specific expertise in a discipline area. I think that you don't work well as an academic if in fact you don't have that somewhere — but there's also all the other stuff about that being an academic in not just about managing the teaching model. As you move up through the system you are sort of management process. I guess some of the things that I hoped Women in Leadership would actually engage us with were around this — rather than just telling us about university governance, or sort of structural things — there's much more in question. You actually need clear direction — I sort of know what knowledge I need to act and move on. So if I say to myself, look my interest now is in developing real professional expertise in a discipline sense, then I guess that knowledge is research-based knowledge. Do I write a book about something I am interested in? So that's sort of one possible path. Another possible path is — how do I position*

myself for that [promotion]? And that path seems to be a bit of a different path. I guess in an ideal institution those paths should cross, but that ideal is a bit of a myth, they don't cross very easily and they have to actually be built and pushed a bit to fit. You have to step above and to see it all fit together and to understand the pathways and directions … (Transcript 18)

Being an academic is realistically adapting the ideal of academic work — the ideal is a myth**.** The role involves working out what is required to succeed and positioning oneself and performing as is necessary to meet those requirements. Emotions range from satisfaction when the system has been worked out to frustration when it remains remote/obscure/unintelligible.

The difference between the *Selective working knowledge* group and the *Procedural working knowledge* group is that the academic ideal is no longer seen as an ideal, but rather as a myth which is strategically abandoned. The role involves not just knowing what is required and managing this, but understanding what is required to personally succeed and plotting that by performing specific tasks and functions.

Consistent working knowledge: the ideal is achieved

There's what I need to know professionally as a practising biologist. That, I can sort of — keep across. What I need to know scholastically in terms of what I teach is a separate issue, because what we teach here is so diverse. Just to say 'adapt to change' isn't useful. You've got to think about what you are doing and why and work that through. I draw the distinction between being an academic — and a teacher. [I am] an academic whose portfolio of duties includes teaching — and research, and professional extension work and, of course, administration. I came to the university believing that a university has to have a research component, and that's important to me, so I keep the research going, and that takes a lot of time. Our degrees are increasingly vocationally orientated, so you need to know — what our employers, potential employers are doing. I think we forget there's a professional element to this job as well, not just teaching first years. So there's a lot involved here. [Participating in institutional processes] is not that important for me personally, but I know it's important — in terms of keeping staff on side and — being an effective institution. The pie's only so big, and 40 per cent of the pie is —

teaching and 40 per cent is research and 20 per cent is administration, 'let's keep the show on the road', stuff. We've just got on with what we have to do as well as we can with what we have. I'm reasonably optimistic I do a reasonably good job. (Transcript 19)

Being an academic involves demonstrating expertise in all aspects of the academic role and striving to work across all areas. This involves confronting and exploring problems and issues in every aspect of day-to-day work. Emotion is expressed largely as confidence and self-assurance.

There is a major difference between awareness of being an academic in this *Consistent working knowledge* group and that in the *Selective working knowledge* group. Here, the notion of an academic is a lived reality. It is no longer unachievable or a myth, it is a reality and is achieved not by merely performing, as in the previous group, but by confronting and exploring genuine issues and problems.

Integrated working knowledge: the ideal is ever changing

The requirements that are placed on you evolve — away from your traditional discipline area teaching and research it seems. Part of this is actually driven by the university; part of it's also driven by external forces. The pressure of requiring more and more is changing and evolving and as academics we have to change and develop. There's a lot less support for the academic within the university these days and there's more to do. So the question is how do we work it? And the answer is, in part, to help to get the most out of them. You can actually get a lot more out of academic staff if they have more support, more support to do what they're supposed to be doing and that is teaching and the research but more support to know about how things are changing — because the role of an academic changes and the knowledge base changes, the things that they have to teach change and the world they are teaching in and researching in changes. We need support to help get across these changes and make connections between all aspects of their work and integrate. We say — one of the biggest things we need to be able to teach the students is how to learn. We need to get staff to learn too. The only way [academics] are going to develop and get across is not to remain so insulated within the school, to actually face the wider community and the wider university

> *community. [If you do this] you can get advanced insight into what's changing and that's important, because this is one way of actually trying to minimise the discomfort the staff feel. (Transcript 11)*

Being an academic is to recast issues and problems as awareness of influences changing the conditions of work grows and develops. This involves supporting academic staff to be open to change and development. Dominant emotions are confidence, commitment and optimism.

Being an academic in the *Integrated working knowledge* group is similar to that in the previous group, in that being an academic is a lived reality, but it is experienced differently. In the *Consistent working knowledge* group, each aspect of academic work is attended to individually and there is little focus on integration of insights across aspects of the academic role. Here, in this group, the focus is on the integration and growth and development to allow for the inevitable change of contemporary academic life.

The following table summarises the relationships highlighted in the transcripts above.

Table 6.1 'Being' in descriptions of working knowledge

Working knowledge	Clusters of emotions	Being an academic	
		Referential	Structural
Fragmented	Insecurity, discomfort.	Ideal is postponed.	Failing to keep across basic teaching demands.
Procedural	Comfort, cynicism.	Ideal is unachievable and abandoned.	Managing demands in teaching.
Selective	Satisfaction, sometimes frustration.	Ideal is (strategically) interpreted.	Winning favour with senior staff.
Consistent	Confidence, self-assurance.	Ideal is challenging, but achievable.	Identifying and addressing issues in all domains.
Integrated	Confidence, commitment, optimism.	Ideal is ever changing.	Recasting issues across all domains and inter-relating problems and ways forward

The results outlined above show the ways in which 'being' an academic is intimately related to the working knowledge of an academic. It also makes explicit the structural relationship between ways of knowing how to practise and having a sense of identity as an academic. This analysis also makes explicit the dominant emotions experienced by academics in each working knowledge group and how this emotional experience is also related to specific levels of working knowledge.

The next stage of the analysis involved further unpacking the notion of 'being' an academic by drawing closely on Akerlind's method of thematic phenomenographic analysis.

Themes associated with being an academic in the working knowledge groups

In the search for themes associated with being, there were two that stood out from the outset. The first, 'agency', focused on perceived capacity to act independently as an academic. It was found in expressions/perceptions of being dependent on others or of being autonomous, in control. The second, 'development', focused on perceptions of learning about work as an academic. This theme was identified in expressions of the capacity to explore and decipher sources of working knowledge. An exploration of these themes drove the final stage of the analysis and is described below.

This final analysis involved looking for additional themes and proceeded using the eight steps used to seek out evidence of 'being an academic' (cited earlier in this chapter). This time, however, steps 2 (searching for explicit descriptions of self and 'being an academic') and 5 (development of tentative descriptions of being for each working knowledge group) focused on each theme in turn. When interrogating the data for evidence of agency, the initial question asked of the data was: 'How does the interviewee act? What is the focus of that action and where does the capacity to act come from?' For the second theme of development, the data was interrogated by asking: 'What is the major source of the working knowledge of academic practice? How do academics develop deeper insight into or knowledge about academic practice?' The themes appeared to work together in ways similar to the referential and structural dimensions of more traditional phenomenographic analysis. Agency may be interpreted as 'how' an academic saw and approached work as an academic (the referential) and development could be seen as representing the 'what', or the structural aspect.

The themes of agency and development are structurally related to 'being an academic'. What this looks like at in each of the five working knowledge groups is summarised below.

Fragmented working knowledge

Work is done to attend to demands, but is largely outside of one's control (agency).

Specific information relating to day-to-day work is sourced through colleagues and supervisors. Development occurs 'on-the-job'.

Procedural working knowledge

Work is done to solve specific day-to-day situations and problems and is managed by the informed individual (agency).

Knowledge of how to act lies in the detailed procedures and regulations of the university. Development occurs 'on-the-job'.

Selective working knowledge

The focus is on marketing oneself in line with managerial expectations (agency).

Knowledge on how to act lies in understanding the requirements of academic managers. Development involves identifying managerial expectations through formal programs and informal networking.

Consistent working knowledge

Understanding how the discipline and profession are structured and are developing gives confidence to act with initiative within the university (agency).

Knowledge is based in the discipline that is taught and researched and in the profession into which students graduate. Development involves keeping up with developments in all aspects of university life through formal and informal channels.

Integrated working knowledge

University knowledge systems often work in unpredictable ways. Responding with insight and optimism is the way forward (agency).

Knowledge comes through understanding the interaction of the knowledge systems at work within the university. Development involves keeping up with developments in all aspects of university life through formal and informal channels.

The following extracts from the interview transcripts illustrate the themes of agency and development and demonstrate how these themes relate in each of the five working knowledge groups.

Fragmented working knowledge: dependence/on-the-job

> *What I have found is that, for all the time I have been here, I feel that I am on a roller[-coaster], that I just roll from one place to another and half the time I don't know what I'm doing. I'm doing what I think is expected, but sometimes you try to do it right or you get into trouble. I just learn on-the-job. I always thought universities were free speech and free mind, free thought — but that is not the case from my experience. It is like seeking a track in the bush, but the bush seems to be full of thorns and I keep wanting to get through but [it] comes back and stings you — a lot of work I do I don't think resembles what I thought of as an academic's role. I thought a lot of it would be a lot clearer. (Transcript 2)*

The above transcript suggests little or no control of day-to-day academic work and little or no understanding of what s/he has to do in order to satisfy demands. The metaphors of 'roller-coaster' and 'bush full of thorns' indicate little agency and power to act and how anxious and painful the experiences are. Day-to-day work demands are overwhelming. The institution is a hostile environment and hard to navigate. Development is informally 'on-the-job'.

Procedural working knowledge: prescribed independence/on-the-job

> *At one level it is overwhelming, but you learn to cope. Most of it [what I know] is picked up on-the-job, through reading procedures and guidelines or talking with other people who know this stuff. So you say: ' What would you do with this issue, or when this happens'. A lot of knowledge and trust is developed through what I'd call incidental mentoring. You sort of develop a collegial practice and network in this way and you have to be a bit sneaky asking the right person and working out ways around and it takes so much time and I frankly can't see a way around that. (Transcript 6).*

The extract differs from the previous one in that whilst work can be described as 'overwhelming' it is being managed. Administrative duties comprise much of day-to-day work, but there is satisfaction in having control, and knowing how systems work

and what can and cannot be done. Development is through informal networks and 'on-the-job'.

Selective working knowledge: strategic independence/development of the job

> *I see myself as a professional academic, rather than what you might call a 'pure academic'. I see that through my managers' eyes I have to develop to be that professional. I would say that in an organisational sense that constitutes my knowledge base — and I have to be seen to be doing that. I see it as essential to my job to perform within the university as a strong teacher, manager, researcher. Now I actually feel as if I can pretty autonomously do what I need to do — and do it reasonably well — but you have to make sure you are a bit of a public relations consultant and essentially market yourself and do things to show this — formal programs — but certainly outcomes. I think there is a certain fantasy and a certain romance about being an academic that we all have, but I think that's kind of a myth to be honest. (Transcript 9)*

The focus here is on finding out what is required by managers and on marketing the self according to this. Agency rests in performing as a successful 'professional academic' and having control over what one does and how one is seen. Academic development is sought as much to 'perform' as an organisational professional as to actually develop.

Consistent working knowledge: independence/personal development

> *And there's plenty of overlap between [teaching and research] and I understand both, but the actual teaching side of things, I feel I need some more formal education or grounding in to teach effectively, which is quite interesting for me. I was employed on those grounds of my [discipline] knowledge base. So my approach is having formal training, which is partially why I was doing the things that you run. If there are gaps in knowledge say in a discipline-related area, then that can be fairly easily overcome by some research on my behalf — it's not difficult, it takes time, but I feel comfortable doing that — the discipline knowledge — that's been collected up over a long period of time through my formal discipline background. And in terms of the profession I've gained connections and insight there in the workforce and through experience there. And at the moment I feel*

reasonably confident enough all around, which doesn't mean it's not a struggle at times. (Transcript 10)

The focus here is on the academic discipline and on teaching and researching in this discipline. Agency lies in being able to do both effectively and additional support is sought for teaching, through the academic development unit. There is much less reliance on the knowledge of colleagues than in previous working knowledge groups, the focus is on knowing for one's self and that gives a dominant sense of confidence.

Integrated working knowledge: independence/integrated development

But as an academic — I need to know what's the framework that I'm operating in — [the interpretation of] the policy in terms of my working. Maybe that's why some academics get anxious, because we've actually got to create your own interpretation based on your own situation and work with it. Formal training — certainly it can help always — but necessary across the board at all different levels and areas — but actually its being out here, being autonomous bringing it all together. Because it won't always work in the way it's supposed to. So we've had to understand how the university actually operates, in all its segments and at all levels. How its strategic direction has been set, but also how things within the university work in relation to this, what goes well and what doesn't. So for me to work well, positively that is, it's not just about what I teach or research or ... the whole thing. The various aspects have to become integrated, so I've got this thing about developing integrated knowledge and integrating the whole work practice. That's for me the sort of information academics should have access to — that knowledge that allows them to have more control — not compartmentalise their work. (Transcript 4)

In this final category, the focus is on integration of knowledge across the university. Agency comes through understanding how systems relate and interrelate and on working this out independently, not relying on the 'ideal' interpretation of others.

Development involves both formal and informal learning, but above all requires the capacity to integrate and predict outcomes and possibilities. This differs from the previous working knowledge group in its focus on integration.

Table 6.2 on the next page summarises the relationships between the five categories of working knowledge developed in the second level analysis and ‘Being an academic’ together with the two associated themes explored in the second level of the thematic analysis.

Table 6.2 Relationships between working knowledge categories, being an academic and associated themes

	Working knowledge				
	Fragmented	**Procedural**	**Strategic**	**Traditional**	**Integrative**
Being an academic	Ideal not yet achievable (what)	Unachievable ideal (what)	The ideal is a myth (what)	Lived reality (what)	Ever-changing reality (what)
	Struggling to be across day-to-day demands of university (how)	Managing day-to-day demands around teaching administration (how)	Establishing expectations of senior staff and marketing self (how)	Demonstrating expertise across all aspects of academic work (how)	Developing and integrating knowledge and backing change across university (how)
	Emotion: negative, insecurity, anxiety	Emotion: mixed, satisfaction, cynicism	Emotion: mixed, satisfaction, frustration	Emotion: positive, confidence, self-assurance	Emotion: positive, optimistic
Theme 1: Agency	Little sense of agency; work demands are day-to-day and outside of one's control	Agency involves addressing specific day-to-day problems	Agency involves marketing oneself in line with expectations of senior staff	Agency involves understanding how discipline and profession are developing	Agency involves working with unpredictable systems in an informed and optimistic way
Theme 2: Development	Information sourced largely through colleagues. Development is on-the-job and informal.	Knowledge lies with colleagues and in the detailed regulations and procedures of the university. Development is on-the-job and largely informal	Knowledge lies in accessing and meeting expectations of senior managers. Development is via networking and formal recommended programs.	Knowledge is based in the discipline taught and researched and in administering within the university. Development in keeping up with changes, via formal and informal means	Knowledge comes through understanding the interaction of knowledge systems within the university. Development is both formal and informal, through exploring inter-relations

Conclusions

This final part of the analysis of the working knowledge of academic staff has further explored the structural relationships across and between the different levels of working knowledge, identified in Chapter 5. This has been done by identifying themes that underpin and connect the five categories of working knowledge, using the work of Akerlind (2005) as a guide.

First, being an academic was hypothesised as being integral to the concept of working knowledge and evidence of this was sought and identified across the categories of working knowledge. It seemed that for all interviewees there was an 'ideal' notion of an academic that they measured themselves against and commented upon. For those in the *Fragmented working knowledge* group, this ideal was remote and assumed to be something that may be attained in the future. To members of the *Procedural working knowledge* group, the ideal appeared to be unachievable and had been largely abandoned. Those in the *Selective working knowledge* group had apparently decided that the ideal was a myth and had abandoned it in favour of a more strategic approach that attended to their personal goals. To the academics in the *Consistent working knowledge group*, on the other hand, the ideal was seen as challenging, but largely achievable, whereas those in the *Integrated working knowledge* group saw academic work as ever-changing and beyond definition in terms of fixed ideals.

In summary, an expanding awareness of being an academic across the categories of working knowledge included a movement from the notion of the ideal as remote, but never-the-less defining practice and performance for the academic role, to a view of being an academic as very much a day-to-day lived experience, intimately associated with personal values. The *Selective working knowledge* group appears to be the watershed between 'performing' the role of an academic and actually 'being' an academic. To the members of this group, being an academic entailed performing to meet an externally determined ideal (the institutional interpretation conveyed by managers), but this was to some extent integrated with personal values.

The emotions associated with each level are in keeping with the above interpretation. To the members of the *Fragmented working knowledge* and *Procedural working*

knowledge groups, the role was seen as unachievable. In the first group, even keeping across day-to-day demands was impossible and emotions were very negative. As control grows, so anxiety lessens and at the watershed position of *Selective working knowledge* there is both significant satisfaction and frustration expressed, depending on the extent to which the academic is able to understand and adapt university demands to personal ends. In the *Consistent working knowledge* group, being an academic is better understood and whilst that is not without its challenges the emotions displayed are largely those associated with self-confidence and self-assurance. At the level of *Integrated working knowledge*, however, uncertainty is recognised, but met with anticipation rather than despair. Being an academic is recognised as ever changing and this is cause for optimism rather than despair.

Following on from its exploration of 'being an academic', the analysis then moved to search for additional themes associated with academic identity. Two themes were identified. The first, agency, included variation in awareness of the ability to act independently in one's academic work across the five categories of working knowledge, and the second theme, development, identified a similar variation in understanding of where academic knowledge lies and how development and growth as an academic happens.

Perceptions of the ability to act ranged from *Fragmented working knowledge*, where work was out of one's control, to *Integrated working knowledge*, where independent action as an academic was assumed and acted on in complex ways. There was a sharp distinction between the *Fragmented working knowledge* group, where work was, without doubt, out of control, and the *Procedural working knowledge* group, where there was some limited control over managing day-to-day work and indeed some pride in this day-to-day management. At the level of *Selective working knowledge*, there appeared at first glance some control over day-to-day work and the ability to act autonomously. Closer investigation, however, suggested that the ability to act was contained within confined boundaries as an interpretation of what senior staff wanted, rather than what was believed personally to be appropriate. Those in the *Consistent working knowledge* group expressed confidence and a sense of autonomy in working within all three domains of academic work. However, the members of the *Integrated*

working knowledge group emphasised the need to go beyond working within domains to working in ways that actively related domains and to do this with independence and confidence.

The second theme, development, covers the sources of academic knowledge suggested by interviewees and how they perceived development and growth as an academic to occur. The perceptions of the different working knowledge groups ranged from the view that development as an academic occurred primarily and most importantly 'on-the-job', with information sourced from local documentation or colleagues in the immediate context, (*Fragmented and Procedural*) to the view that it occurs through a combination of 'on-the-job' and more formal learning situations sourced from institutional and other sites (*Consistent* and *Integrated working knowledge* groups).

In the *Fragmented* and *Procedural working knowledge* groups, where day-to-day work was a struggle to meet demands, the ideal of an academic life was not realised and development was not a conscious process but rather a matter of acquiring information and, most importantly, a matter of survival. In the *Consistent* and *Integrated working knowledge* groups, by contrast, there was a conscious effort to source knowledge that went beyond information for survival and it was tied to personal interpretations of an ideal of being an academic. As in the theme of agency, the *Selective working knowledge* group seemed to act as something of a watershed in expressions around this theme. At this level, sources of working knowledge were sought both on-the-job and in formal settings. However, the *intent* underpinning this was personal advancement, a somewhat more strategic notion version of survival than the intent underpinning development in the *Fragmented* and *Procedural working knowledge* groups.

Chapter 5 developed the new composite field of working knowledge, bringing together the three distinct domains of teaching, research and institutional administration. When the findings of Chapter 5 are considered in light of the findings reported in the present chapter, a more complex picture of the working knowledge of academic practice emerges. It concludes that being an academic, embedded in working knowledge, is the product of engagement within the institutional context. Having said this, however, working knowledge also includes knowledge about being an academic that is calibrated

against an abstract, idealised notion of being an academic. So this complex notion of being an academic is both deeply embedded within a specific context and also informed by decontextualised and abstract notions of the academic life. Some of the consequences of this are discussed in the following chapter.

Chapter 7 Discussion: Emerging perspectives on working knowledge

Introduction

As reported in the last chapter, the domain of institutional knowledge appeared to be central in understanding the nature of working knowledge of academic practice. This knowledge, as described in chapter 4, is constituted from working knowledge across three domains, institutional administration, teaching and research, Working knowledge of institutional administration appears to play a key mediating role in the way day-to-day working knowledge is constituted across the domains, irrespective of the complexity of the structure of working knowledge underpinning the domains.

This domain of working knowledge is further implicated in the ways academics see themselves as academics, and being an academic appears to be influenced by how academics know and work with the institutional expectations and requirements around teaching and research. This connection with 'being' an academic, reported in chapter 6, and the structure of knowledge reported in chapter 5, establishes working knowledge of institutional administration as integral to the ideas around knowledge, learning, work and identity at the core of the concept of working knowledge.

In this present chapter, the findings of this study area are discussed in relation to ideas around 'knowing' and 'being' in the phenomenographic literature and recent thinking from the 'working knowledge' literature, and are positioned in the context of recent discussion and literature on academic work.

In the first part of the chapter the variation in working knowledge of each of the domains — the key finding from the traditional phenomenographic analysis — is discussed with reference to relevant phenomenographic studies focused on teaching and research. In the case of the domain of working knowledge of institutional administration, on which there are few comparable studies, the discussion moves to references to the wider academic practice literature.

This movement opens up the discussion of variation in structural relationships between the domains — the key finding from the analysis reported in chapter 5. This is done in

the first instance with reference with comparable phenomenographic studies investigating multi-phenomenal fields; most notably, the work of Akerlind (2008b) and Prosser et al (2008) which inspired this stage of the analysis. In the second instance, there are references to the wider working knowledge and academic practice literatures, which comment on how the findings illuminate the conditions of contemporary academic work.

This focus on the wider literatures is maintained in the final part of the chapter that explores the variation in ways of being an academic with working knowledge — the key finding from the analysis reported in chapter 6. This focus does not exclude phenomenographic studies, but positions them in the broader context of discussions about academic identities and the epistemological shifts underpinning and driving these.

It is argued here that each of these elements needs to be considered fully to appreciate the significance and possible applications of this thesis — that working knowledge of institutional administration defines the nature of academics' working knowledge. By bringing these elements, so far described separately, together, the pivotal role of working knowledge of this domain is reiterated.

Variation in domains of working knowledge

Summary

As indicated in Chapter 3, a 'traditional' phenomenographic analysis was undertaken in the first of two levels of analysis. The key findings from this first level analysis, reported in chapter 4, was that there was structured variation in the ways in which academics' talked about their working knowledge and that this working knowledge could be described in terms of three separate domains: teaching, research and institutional administration. Within the teaching domain, working knowledge ranged from facts and tips that could be used to teach at one end of the spectrum to knowledge of theories of learning and teaching that could frame teaching practice at the other. In the research domain working knowledge ranged from information relating to discipline topics to discipline theories, while in the third domain of institutional administration, working knowledge ranged from an awareness of who, and sometimes where, to get

information from at one end of the continuum, to a knowledge of institutional systems and processes in relation to external systems and processes.

In this study working knowledge of academic work is described for the first time and constituted both within and across each of these three key domains. Previously academic work has largely focused on teaching on the one hand and research on the other with the notion of 'service' cropping up around promotion, but rarely has 'service' been explored within research studies of what constitutes academic work. The division into three domains with descriptions of what constitutes working knowledge within each is, in itself, a significant finding of the present study, and especially significant is the identification and description of the domain of institutional administration given there is a lack of any parallel study of administrative type work. Although this institutional administration is so often dismissed as 'other', it is widely acknowledged to be increasingly taking up the hours in day-to-day work (for example, McInnis 2000, Harman 2001; 2002). It is also often related to calls for 'accountability' and 'quality control which are often seen to be part of the move towards managerialism in university life, administration and governance (Greenbank 2006, Hodgson 2007, Karlsson 2007).

It should be re-emphasised here that this study deals with is working knowledge of academic work, not experience of academic work. Existing phenomenographic studies have explored experience of aspects of academic work. Although the phenomenographic method focuses on specific instances and asks academics to recall this rather than to talk loosely about what may be the case, there is a difference between experience and working knowledge of, for instance, teaching and the experience of teaching, even when it is a specific teaching experience that is being recalled. Working knowledge focuses on what it takes to 'do' in a particular environment and situation — what knowledge is involved in the 'doing' of teaching a specific lesson or tutorial or seminar, given the surrounding demands and culture. So, whilst there are parallel studies relating to teaching and research, this is all they are —parallel and focusing on similar, but not the same phenomena. In the following paragraphs I recap the key findings and make comment on the first level analysis and variations that were found within each of the three domains.

Variation in working knowledge of teaching

The parallels between the present study and existing phenomenographic studies are strongest with studies of academics' experiences of teaching. Here the range of variation of 'working knowledge of teaching' almost replicates the range of 'experiences of teaching' described in existing phenomenographic studies. For example, descriptions of less complex working knowledge are in terms of teaching facts and tips to be used when required. This appears to be closely and logically connected to descriptions of lower levels of teacher-centred teaching that focuses on the efficient transmission of information to students (Trigwell et al 1994, Prosser & Trigwell 1996). Likewise, at the other end of the continuum of working knowledge of teaching, the focus on understanding of what makes learning possible has parallels with student-focused experiences of teaching highlighted in existing phenomenographic studies of teaching (ibid). Descriptions of working knowledge other than those at the extremes of the continuum are also similar to those in existing phenomenographic studies focusing on teaching activities and strategies. These have been the focus of debate around whether such approaches focus on teacher or student (Samuelowicz 2001). The working knowledge of teaching that parallels these descriptions is based on knowing about activities and strategies that can keep students busy in the classroom, suggesting that this working knowledge supports recent interpretations of these experiences as essentially teacher centred (ibid).

At one level it may be expected that the experience of teaching is similar to working knowledge of teaching, but given that it is a different phenomenon it is important to be open to differences as well. A suggested reason for the close similarity between descriptions of variation in working knowledge of teaching and descriptions of variation in existing experiences of teaching may be the extent of existing research into academics' conceptions of and approaches to teaching and the consistency of findings over the past 20 years (Kember & Kwan 2000). Without doubt a lot is known, written and talked about academics' experiences of teaching through this extensive body of work, but these parallel findings may also be seen as a measure of validity of the current work.

Variation in working knowledge of research

Turning now to the working knowledge of research reported in chapter 4, again the parallels with existing studies of academics' experiences of research are evident, though the range of experiences of working knowledge appears to be wider than the range of experiences of research currently described in existing phenomenographic literature. In particular, the least complex level of working knowledge of research, which has a focus on collecting facts and information, appears to have no parallel description in existing studies of the experience of research. The least complex level of experiences of research currently identified in existing studies highlights the application of a particular theory or theories (Brew 2001, Bowden 2005, Akerlind 2008a). Parallel descriptions of working knowledge to this 'application of theory' notion of research are present in this study, but they come in the mid-range of working knowledge of research, as reported in chapter 4.

The absence of parallel descriptions of experiences of research in existing studies identifies a wider range of awareness and description of research than previously investigated and this seems reasonable given that the present study was undertaken in a 'new' university, not a research intensive university, where most existing investigations into academics' experiences of research has taken place (for example, see Prosser et al 2008). The least complex category of working knowledge highlighted in this present study, for example, suggests almost a 'pre-research' category of experiences of research. This opens up questions about research development, and academic development in general for academics, and the best way forward for academics with varied levels of working knowledge in and across the different domains. Indeed, it extends beyond this to questions concerning which universities may claim active research status and what proportion of research-active staff constitutes such status and what level of understanding those staff should have. Such issues are critical questions for universities to consider as they consider their future missions.

Variation in working knowledge of institutional administration

The growth of administration and the challenges this places on contemporary academic work has been a focus of much of the academic work literature (Henkel 1997, Houston *et al* 2006). So far, however, there has been no phenomenographic study on this topic and nothing that helps us to understand the range of ways in which this increase in

administration is experienced and how it relates to other aspects of academic work. The identification of institutional administration as a distinct domain of working knowledge of academic work and the descriptions of variation within this is perhaps the most significant outcome of the first level analysis

The variation in working knowledge of this domain described in chapter 4 offers some insights into academics' understanding of what constitutes academic work beyond teaching and research. For example, less complex working knowledge of institutional administration has a focus on a specific and immediate context. Some piece of paper has to be completed in a particular way and returned by a certain date and usually someone, or occasionally some source, can give guidance on what should be done and how. There is little or no attempt to understand what is being done or why. At the other end of the spectrum, more complex working knowledge has a wider holistic focus on the institutional context in which administrative tasks exist and how they exist within systems and processes, at the local, school or faculty level, at the university level and beyond in the broader higher education system of Australia. At the highest level this includes awareness and understanding of activities related to institutional governance and the enhancing of institutional reputation as well as the way higher education is undertaken and valued worldwide.

More complex working knowledge appears to satisfy the more widely accepted definition of 'service' in academic work. This cannot be said of less complex working knowledge of institutional administration (see for example, Jones 2005). Less complex working knowledge of institutional administration for example suggests that the area of work outside of teaching and research is confined to a focus on meeting institutional requirements in the immediate context as they arise, and that 'service' is narrowly defined in terms of immediate institutional demands

This initial work on working knowledge of institutional administration, with its range of understandings as to what lies beyond teaching and research, opens up possibilities of scoping this varied range of activities. This is currently is seen to lie beyond core work and come somewhere between and across service and administration. Given the growing significance of this non-traditional work and the growing number of hours

taken in undertaking it, is clearly important to get a better handle on how it contributes to the working knowledge of academic work and this study appears to offer a way of exploring this.

The findings reported in chapter 4 were achieved by following a traditional phenomenographic approach. In this approach, each aspect or domain of academic work was identified and then separately explored using procedures typical of phenomenographic research. This process resulted in the three separate outcome spaces, or domains and descriptions of variation of working knowledge within each of these. While this approach was effective in developing understandings about the variation in understandings of each domain of working knowledge, it stopped short of identifying how the domains might come together and operate in relation to each other.

It seemed likely when reviewing the 'level 1' findings that relationships between the domains would exist — not least because of the way in which the domain of institutional administration was described by interviewees as overlapping and there was a lead in the literature how this might be explored. Recent phenomenographic work had suggested that the often debated relationship between teaching and learning might be mediated by academics' understandings of subject matter, which is often common to both teaching and research (Prosser et al 2008), or to their experiences of their growth and development that are also common to experiences of teaching and research (Akerlind 2008b).

Following on from this work in this study a hypothesis was made that the domain of institutional administration, which was common to both teaching and research, would mediate the relationship between the other two domains of teaching and research. This was the hypothesis that was put to the test in the second stage of the analysis and which is discussed in the following section.

Variation in structural relationships between the domains

Summary of findings

The second level of analysis of this study, which explores ways in which the domains come together in day-to-day academic work, is comprised of two parts. The first part

sought to understand the different ways in ways that the domains of working were brought together by academics. In this first part of this second level analysis, reported in chapter 5, these different ways of coming together were identified and described as patterns. In the second part of this second level analysis, reported in chapter 6, variation in ways of being an academic in each of these patterns was identified and described.

In the following section the different patterns of working knowledge identified and described in chapter 5, the first part of this second level analysis, is the focus. These patterns identified what academics prioritised as important to know in their day-to-day work, what constituted their day-to-day work and how the three domains were woven together in this work.

The key finding concerning the identified patterns of working knowledge across the three domains was that working knowledge of institutional administration was prioritised differently in patterns of working knowledge, and the complexity of this domain relative to the complexity of the other domains was pivotal in determining how the overall understanding of working knowledge of academic work and the relationship between teaching and research was subsequently constituted day to day.

The discussion below draws on phenomenographic and other work discussed in the review of the literature undertaken in chapter 2, with special reference to the ongoing debate about the relationship between teaching and research in light of the growth of administration in day-to-day work. As noted in the review, there is still debate about the extent to which administration is undermining teaching and research, and how academics are accommodating its demands

In the following sections I discuss the ways in which each of the three domains — institutional administration, teaching and research — were positioned in the construction of the various patterns of working knowledge of academic work. I begin with the domain of institutional administration, because this was evidently pivotal.

Variation in relationship of institutional administration to the other domains

As indicated earlier in chapter 3, phenomenographic work on the relationships between different phenomena has found similar levels of understanding across related phenomena (see, for instance, Prosser et al 2008, Akerlind 2008b). In the present study this was also shown to be the case at either end of the spectrum of working knowledge patterns: in less complex 'Fragmented' working knowledge and complex 'Integrated' working knowledge. In these patterns, all domains were at the same level of complexity. This indicated that understandings of the domains had either a consistently atomistic focus in Fragmented working knowledge, or a consistently relational focus in Integrated working knowledge. This consistency of focus, however, was not to be found uniformly in all patterns of working knowledge; in just over half of the transcripts (12), there was a mixed focus.

These patterns demonstrated a way of doing academic work that varied in complexity and understanding across the domains. In all patterns however, it is argued that working knowledge of institutional administration was pivotal to the ways teaching and research were positioned in day-to-day work. In brief, the complexity of working knowledge in this domain relative to the complexity of the others identified the complexity of understandings of work in the other two. At the complex end of the spectrum of patterns, a linked relational or relational focus in this domain was related to a focus in the other domains at the same level (as in Integrated working knowledge) or higher (as in Consistent working knowledge). Work was understood as interplay between teaching and research at a conceptual and theoretical level. At the less complex end of the spectrum, an atomistic or linked relational focus in this domain was related to the other domains at the same level (as in Fragmented working knowledge), higher (as in Procedural working knowledge), or lower (as in Selective working knowledge). Work was understood in terms of one domain — most commonly teaching, but in the case of Selective working knowledge, it could be research. The relationship between teaching and research in these patterns was not conceptualised, nor theoretical.

These findings suggest that working knowledge of institutional administration is itself a critical and complex web that influences the ways in which academics constitute and

prioritise their day-to-day work. So whilst at one level working knowledge of institutional administration operates in similar way to academics' understandings of subject matter that Prosser et al found to mediate the relationship between experiencing teaching and research. (Prosser et al 2008), it differs because of its influence on how teaching and research can be understood and prioritised. In this study it is argued that when an academic is focused on working day to day, it is their understanding of institutional administration and what it takes to do this work that is critical for how day-to-day work in teaching and research is undertaken and prioritised.

To recap, Prosser et al mapped levels of complexity in academics' understandings of their subject matter and their experiences of teaching and research, and demonstrated that understandings of subject matter overlapped at the same level of complexity with experiences of teaching and research. By establishing that understandings of subject matter were at a similar level of complexity to experiences of teaching and research, Prosser et al argued that the understanding of subject matter has a direct and mediating role in the constitution of the relationship between teaching and research and it accounts for the variation in this relationship (Prosser et al 2008).

In the present study, the levels of complexity of the domains were mapped using an adaptation of the approach developed by Prosser et al, so comparisons with the findings of that study are possible. The mapping identified that working knowledge of institutional administration *was* related to the other domains and that it was common to these. However, as discussed above, there were anomalies in patterns of working knowledge of the domains that identified inconsistencies of focus that were not identified in the study of academics' understandings of their subject matter in the relationship between teaching and research. When the inconsistent foci of these patterns are compared with the foci of comparable categories developed in the Prosser study — those with a consistent linked relational and relational focus between the extremes at either end of the spectrum — it is possible to see that working knowledge of institutional administration *precedes* or at least takes priority over knowledge of subject matter in determining priorities in day-to-day work. These patterns support the argument put by Prosser et al that the relationship between teaching and research is not well developed, but offer more information about why this may be the case. Institutional

demands appear to influence the relationship more than subject matter — or discipline demands — in these cases.

The consistently atomistic focus across working knowledge, subject matter and experiences of teaching and research in Fragmented working knowledge identifies that neither is prioritised. It supports the argument put by Prosser et al that the relationship between teaching and research in these understandings of subject matter is not well developed. Similarly, a comparison of the consistently holistic focus of domains in Integrated working knowledge, subject matter and experiences of teaching and research identified by Prosser et al, supports the argument that these understandings of subject matter identify well-developed relationships between teaching and research.

Variation in the relationship of the teaching to the other domains

So far it has been argued that working knowledge of institutional administration is pivotal to the ways in which the other domains of teaching and research are constituted in day-to-day working practice. So what did this mean specifically for the teaching domain?

All academics in the study directly related working knowledge of institutional administration to working knowledge of teaching. The relative structural complexity of these domains, however, indicated how teaching was prioritised in day-to-day work. Where working knowledge of institutional administration was as complex or more complex than working knowledge of teaching, teaching was prioritised in day-to-day work over research and the relationship between teaching and research was not direct. These structural relationships were found in less complex Fragmented, Procedural and Selective working knowledge. Conversely, where working knowledge of institutional administration was as complex or more complex than working knowledge of teaching, teaching was either prioritised in day-to-day work, or it was balanced with demands for research. In these patterns, the relationship between teaching and research was more direct, and, if teaching was prioritised in day-to-day work, it was by choice with preferences for teaching exercised by academics. This was unlike academics with less complex working knowledge. Here the analysis identified that they had no choice and

teaching was prioritised in response to institutional demands that they could neither fully understand nor manage.

Simply put, analysis of the patterns show that a complex working knowledge of teaching was related to both complex and less complex working knowledge of institutional administration, but a less complex working knowledge of teaching was *not* related to complex working knowledge of institutional administration. The directional nature of the relationship between these domains identified priorities about teaching, and suggested that these priorities were determined by perceptions of institutional requirements for teaching. When the relationship was from more complex teaching to less complex institutional administration, teaching was prioritised in relation to institutional requirements, but when it went in the other direction, the patterns identified a lesser prioritisation of teaching.

These directions mirror patterns of dissonance in teaching identified and reported in existing phenomenographic studies where conceptions of teaching do not necessarily match approaches adopted (Postareff et al 2008). In these studies, academics with complex student-focused conceptions adopted both teacher- and student-focused approaches, while those with teacher-focused conceptions adopted only teacher-focused approaches. A comparison with the findings of the present study identifies that working knowledge of teaching and conceptions of teaching determine the direction of the pattern, while approaches to teaching and working knowledge of institutional administration determine what is done. So, if the findings are put side by side, it appears that working knowledge of teaching aligns with conceptions of teaching, while working knowledge of institutional administration is indicative of approaches adopted in day-to-day work.

This suggests that for academics with more complex conceptions and working knowledge of teaching, approaches adopted in day-to-day work may be different to the intentions their conceptions convey, and dissonance is a direct response to what is deemed possible in the context. In these cases, the causes of dissonance appeared to be an unwillingness to respond to demands for more complex approaches to teaching (Postareff et al 2008). For example academics with Consistent and Integrated working

knowledge prioritised working knowledge of teaching in some instances while not in others. Academics with these patterns of working knowledge were likely to prioritise teaching in day-to-day work according to personal preferences (for teaching or research) or in response to their knowledge of institutional requirements (which was complex), so dissonance was a function of working knowledge of the institution.

Dissonance as a function of working knowledge of the institution rather than personal preference appeared to be the case in Selective working knowledge where working knowledge of research was more likely to be prioritised over the other domains in day-to-day work. As discussed above, this pattern identified a deliberate downplaying of teaching in day-to-day work and selective interpretation of institutional requirements. Even when teaching was prioritised in these patterns, it was seen as the source of topics and ideas that could meet institutional demands for research into teaching and demonstrate a commitment to the scholarship of teaching. These academics were unwilling to adopt new teaching practices at a deeper level beyond applying ideas or concepts, or felt they could not adopt them in the institutional context because of demands to demonstrate performativity in research.

In the case of academics with less complex conceptions and working knowledge, dissonant practice appeared to arise because academics were unable to respond to demands for different teaching practices requiring more complex conceptions of teaching (Postareff et al 2008). Academics with these patterns of working knowledge had limited knowledge of the institutional context, were confused about how to prioritise work and could not adopt more complex approaches to teaching, even if they expressed an interest in changing their practices. For example, academics with less complex Fragmented and Procedural working knowledge expressed interest in new ways of working, but were unable to understand how this could occur.

The patterns of working knowledge identified that academics have ‘working approaches’ (Samuelowicz & Bain 1992) to teaching that reflect working knowledge of institutional administration and working knowledge of teaching — what is known to be possible in relation to teaching in that context. In short, working approaches are expressions of dissonance between (ideal) conceptions and the reality of teaching in the

institutional context. However, though these approaches are dynamic, and subject to the influence of contextual factors (Lindblom et al 2006, Postareff et al 2007), the patterns of working knowledge identified that the nature of 'working approaches' differs as the complexity of working knowledge of institutional administration increases. So, where working knowledge of teaching and the institutional context is complex, for example, in patterns of Consistent and Integrated working knowledge, the complexity of working knowledge of teaching and institutional administration allows accommodation of a range of interpretations and responses to institutional demands for teaching. It was possible for academics with these patterns of working knowledge to adopt a range of approaches to teaching according to their priorities and preferences for teaching.

This was not the case in patterns of less complex working knowledge where 'working approaches' reflected partial knowledge of the institution and teaching, and dissonance was a function of partial knowledge of institutional demands in teaching. These demands were met with a limited range of responses. Limited responses can also be identified in Selective working knowledge where one rather than a range of 'working approaches' was adopted — to either dramatically prioritise teaching or not.

Variation in the relationship of research to the other domains

As with working knowledge of teaching, explored above, the way that research was prioritised in day-to-day work was again dependent on the understanding of working knowledge of institutional administration. As reported in preceding chapters, working knowledge of teaching was more likely to be paired at the same or higher level of complexity in patterns of working knowledge with the teaching domain than the research domain. This was the dominant pattern in less complex working knowledge where working knowledge of research was consistently at a lower level of complexity than the other domains, indicating it was not well related to these. It was also the case that working knowledge of research was not well related to the other domain in patterns forming Selective working knowledge where research was prioritised in day-to-day work. In these patterns though, working knowledge of research was, relative to the other domains, significantly more complex than these.

Patterns forming more complex working knowledge marked a shift in the relationship between working knowledge of research and the other domains. Whereas other patterns identified, as described above, that working knowledge of research was not well related to the other domains, in these, this domain was either as complex as or more complex than working knowledge of institutional administration and working knowledge of teaching. In these patterns of Consistent and Integrated working knowledge, working knowledge of institutional administration was either at the same level or above working knowledge of research.

The findings confirm existing studies that suggest academics do relate their teaching to research (Jenkins 2004, Robertson & Bond 2001). What is significant, here, however, is that the complexity of working knowledge of institutional administration is implicated in the constitution of this relationship. So, where working knowledge of institutional administration is less complex than working knowledge of research, the relationship between teaching and research is not well developed. This occurred in Fragmented, Procedural and Selective working knowledge where institutional demands appear to disturb the balance between teaching and research. Where the relationship is in balance, the working knowledge of institutional administration is either as complex or more complex than working knowledge of *both t*eaching and research, for example in the case of Consistent and Integrated working knowledge.

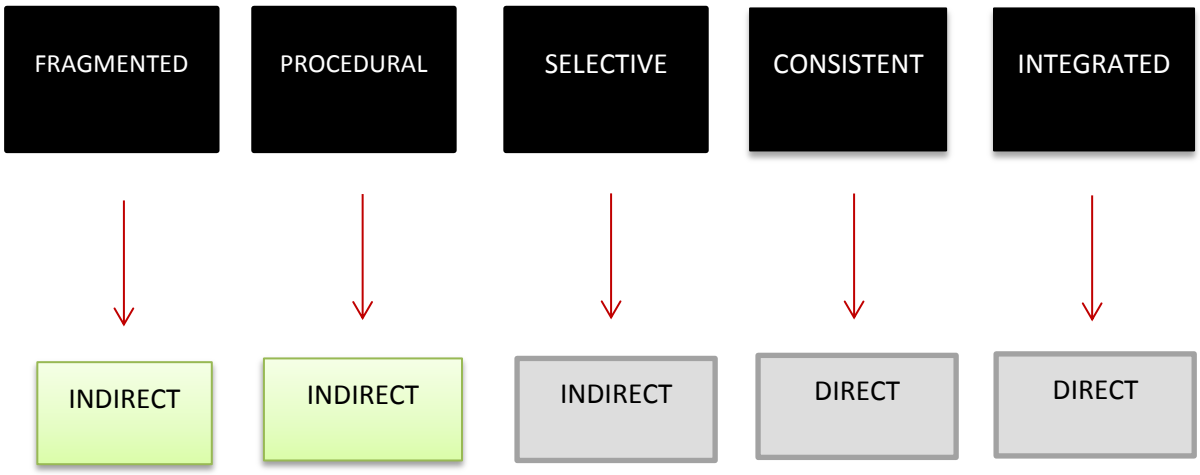
These patterns suggest that academics with complex working knowledge are best equipped to cope with change in academic work and meet new demands, but that they do this on their terms. Unlike academics with less complex working knowledge, they are able to exercise choice in what they do in day-to-day work. This indicates that the prioritisation of research in day-to-day work is not a choice for academics with less complex working knowledge that is typically characterised by more focus on and working knowledge of institutional administration, this being their major priority. There was one overall pattern in which choice was exercised on selecting priorities (Selective working knowledge), but the working knowledge of institutional administration was less complex than working knowledge of research. In this pattern, either teaching or research was at a higher level of complexity than working knowledge of institutional

administration. The relationship between teaching and research was unbalanced in this pattern, despite appearances.

Closer analysis identified that there was a general focus in this pattern on performativity in either research or teaching. This, combined with understandings of knowledge as topics and ideas in this pattern, identified a focus on the production of research outputs aimed at applying knowledge rather than generating new knowledge. Application focused on researching ideas and topics that were accessible and arose consequently from practice — most likely from teaching. Teaching as a source of topics and ideas for research suggests that academics with these patterns of working knowledge were most likely to adopt the idea of the Scholarship of Teaching and Learning (SOTL), as it encapsulates the idea of application and practice based research. This has implications for how SOTL is fostered and understood by academics (Kreber 2010), and suggests that academics likely to be attracted to the idea are likely to have a focus on the application of ideas and concepts without deeper conceptual and theoretical understandings. This may explain why there are so many understandings of what SOTL means to practitioners and those theorising it (ibid).

The relationship between teaching and research in each of the patterns is summarised below:

Table 7.1 The relationship between teaching and research in patterns of working knowledge



The findings resonate with work in the more general literature about the impact of administration on the ways work is prioritised in day-to-day work by academics and its role in disturbing the balance between teaching and research (for example, Henkel 2000, 2005). For example, it is clear that academics are experiencing the polarisation of academic work as a result of the intrusion of administration (Harris 2005, Churchman 2006, 2009, Young 2006, Delanty 2008). However the study identifies varying experiences of this phenomenon and varying impacts of administration. In the case of academics with less complex working knowledge, it is experienced as an imposition over which they have no control or choice, while in the case of academics with more complex working knowledge, it is experienced as a preference — either teaching or research are possible and enabled by working knowledge of institutional administration.

The findings also highlight the connection between change and the underlying reason for demands for new practices —new concepts of knowledge and their impact on academics and their work (Boud & Solmon 2001, Beck 2005, Hodgson & Whalley 2007). New concepts require academics to adopt new practices in teaching and research, and institutional administration is linked in these understandings as a manifestation of new practices (Churchman 2006, Hodgson 2007, Karlsson 2007).

Variation in understandings of knowledge

Whilst the focus of this study is on 'working knowledge' rather than on knowledge per se and at times the differences have been emphasised, it is accepted that there is a parallel and a close relationship between the two (see the findings, chapter 5). In this section the emphasis is on how patterns of working knowledge of academic work appear to be underpinned by more fundamental understandings of what constitutes knowledge per se. Here these different epistemological stances are made explicit and discussed specifically in relation to academics responses to institutional demands for increased administration, this topic being a major issue in the current literature on academic work (for example, Hodgson & Whalley 2007).

In brief, less complex patterns of working knowledge identify less complex understandings of what constitutes knowledge and knowing and consequently less complex epistemological stances in response to institutional demands around academic work. By contrast, complex patterns identify richer and more sophisticated understandings of what constitutes knowing, and consequently well-developed epistemological stances are in evidence in relation to teaching and research and the relationship between these that comprise responses to institutional demands.

A key implication is that academics' responses to growing institutional demands can be traced to levels of comprehension concerning what constitutes knowing within patterns of working knowledge. These trends are discussed briefly in relation to the three major levels of epistemological stance exhibited, summarised as knowing as information; knowing as application and knowledge as theory.

Focus on information

As discussed above, a focus on knowledge as information identified unformed epistemologies underpinning the conduct of teaching and research, and epistemological stances that excluded research and prioritised teaching and what was seen as associated administration. These academics were unequipped to strategically respond to institutional demands for increased or changed administration. They typically saw administration as part of a working knowledge of teaching, which was for them the key function. These people were in perpetual confusion as to what was expected and what

was to be done. Such academics as discussed here were quite unable to respond to demands for research in any meaningful way and consequently focused on teaching and its day-to-day administration. The responses of these academics suggests a range of experiences outside and beyond any current descriptions of the impact of administration; for example, current descriptions of resistance or absorption suggest that academics make deliberate decisions about what to do and how to do it (see Churchman 2006, Archer 2008, Malcolm 2008), but these staff lacked sufficient insight into academic work to work in such a strategic way.

Focus on application

Patterns highlighted here focused on a strategic response to institutional demands with a choice being made as to whether teaching or research dominated day-to-day work; administration was not prioritised. These academics typically focused on performativity in research or teaching, as identified in chapter 4, and they adopted strategies of resistance to demands for administration similar to those described in current studies where academics restrict the amount of administration undertaken in teaching especially (Churchman 2006). However, though there was a focus on performativity that seemed to identify awareness of external drivers for change, there was a reliance on institutional directives and interpretations for action, suggesting that strategies of resistance to administration are less informed by any understandings of drivers for change than currently described in, for example, Churchman 2006.

These academics could also be considered to be experiencing the trend towards polarisation of work towards specialisations in teaching or research (Young 2006). The patterns identified significant, sometimes dramatic prioritisation of either teaching or research in day-to-day work, but this was combined with intent to demonstrate performativity. Academics with such patterns were sensitive to institutional demands for new practices in teaching and research and were likely to indicate being predisposed to their adoption. Such take up, however, was not underpinned by an understanding of essential underpinning ideas and concepts. Consequently, whilst on surface their practice might appear to be ‘new’, their work practice identified only partial adoption. For example, they might identify institutional priorities in teaching or research as the

focus of their work, but it was a desire to perform rather than a concern with theoretical issues that drove them.

In these work practices, the application of ideas and techniques may satisfy immediate institutional demands, but they do not generate fundamental change required in contemporary work (Usher 2000, Boud 2000).

Focus on theories and concepts

Patterns here identified epistemological stances in which teaching and research were related to each other and where supported and sustained by knowledge of institutional administration and strategy. Day-to-day work was experienced not as polarisation of teaching or research, but rather as a preference for either teaching or research with variation year to year for a range of reasons beyond institutional direction. However, teaching and research were undertaken irrespective of preferences. As discussed in chapter 5, the struggle for academics with Consistent working knowledge was to manage and balance demands in both areas, but this was expressed as achievable. For academics with Integrated working knowledge, this struggle appeared less pronounced.

Performativity and the intensification of administration in day-to-day work were also experienced, and academics with these patterns adopted absorption strategies described in existing studies (Churchman 2006). Absorption was possible because administration was positioned as a means of developing and extending work in teaching and research from within theoretical frameworks that supported the relationship between these. These academics for example, identified research interests in the teaching aspects of their work irrespective of their preferences in day-to-day work. Their intent was to locate these activities within disciplinary and broader frameworks that included understandings of administration as a governance and policy function relating to and supporting the core functions of work. New practices in teaching and research were adopted with reference to these frameworks and as a result, practices were emergent in nature.

These underpinning epistemological stances identified experiences of new modes of work associated with new and emergent modes of knowledge production (Symes &

McIntyre 2000). In these, administration was framed as one of these modes that could facilitate the adoption of new ways of teaching and researching. For example, there was evidence of Mode 2 hybridised research 'games' in which existing knowledge and new modes of knowledge production were merged, and Mode 3 'games' engaging new modes of production (Stronach & MClure 1997), in these patterns. Whilst Mode 2 'games' were evident in patterns forming both Consistent and Integrated working knowledge, Mode 3 'games' appeared to be only evident in patterns forming Integrated working knowledge. Corresponding evidence of teaching practices aligned to these modes were also found in these patterns, including the integration of work-based and e-learning approaches that built on existing discipline-based knowledge (Boud & Solomon 2000).

Variation in being an academic with working knowledge

So far, the focus has been the way working knowledge of academic work is constituted by a coming together of working knowledge across the three domains. The different patterns have been explored and what these patterns say about the way day-to-day work of academic staff has been discussed. The second part of this second level analysis builds on the section above on how more fundamental notions of what constitute knowledge underpin academics' ways of working and goes on to consider how these ways of knowing influence not only the doing of academic work, but also the ways in which academic staff play out their roles and see themselves as academics.

The key finding from the analysis reported in chapter 6 was that patterns of working knowledge identified variation in ways of being an academic. These were embedded in patterns of working knowledge and related to an abstract notion — the 'ideal' of being an academic — to which many of those interviewed referred. The abstract and conceptual nature of these understandings resembled the abstract and conceptual nature of the understandings of knowledge discussed above. So, just as underpinning understandings of knowledge raised issues of epistemology in academic practice, ways of being an academic embedded in the patterns raised issues of ontology in practice.

As noted in the review of the literature, a critical issue in discussions about academic identities in contemporary academic work is whether these are changing beyond

recognition and whether these changes constitute a diminution of academic work and identities that support it (Harris 2005, Clegg 2008, Archer 2008). There is a growing body of work that is bringing this 'loss' thesis' (Murphy 2011) into doubt, and there is a suggestion that academics are constituting identities that respond to institutional demands while retaining key attributes and values associated with more traditional identities (for example Archer 2008, Clegg 2008, Smith 2010). However, as noted also in the review of the literature, few in-depth studies offer descriptions of identities and so insights into how they are being constructed are rare. The detailed descriptions of ways of being an academic with working knowledge reported in chapter 6 have implications for this discussion.

An 'ideal' of academic work underpinned being an academic with working knowledge, irrespective of the complexity of the working knowledge overall, though its interpretation varied in light of perceptions of work in the institutional context. The constancy of this 'ideal' suggests support for the view that academics are maintaining traditional values and reinterpreting them in the face of forces that are eroding traditional practices and identities (Archer 2008, Clegg 2008, Sutherland & Taylor, 2011).

The 'ideal' was, as described in chapter 6, a concept used by academics in the study to calibrate their practice and determine how to be an academic in the institutional context. In Fragmented working knowledge for example, being an academic was a disappointment and confusing, and the 'ideal' was unattainable because of how work was organised in the institutional context. These academics did not see themselves as 'real' academics until some time in the future, so being an academic was about having an unformed academic identity. This suggests that an ideal is stable, but interpretation isn't. This dissonance between the 'ideal' and reality suggests the idea of 'working identities' — identities shaped by the institution and its demands and adopted in day-to-day work that are constructed in response for demands for change.

In this final analysis there was exploration of 'themes' underpinning ways of being an academic. These themes, 'agency' and 'development' underpinned an expanding awareness of what it meant to be autonomous within the institutional academic context

and how these meanings were acquired and developed. From a phenomenographic perspective, these may be tentatively thought of as the referential and structural aspects of experiences of being an academic, though in this chapter this interpretation is only tentatively suggested. Further work is required to claim this with confidence.

What was clear, however, was that patterns of working knowledge, described in chapter 5, suggested more than what academics *do* in their day-to-day work; they indicated how academic work is lived and experienced across the different levels of working knowledge. The exploration of underpinning themes which is the focus of chapter 6 offers further investigation of what it is to be an academic and live the working life at different levels of understanding. This work connects with current work on academic identities explored in the literature review.

Expanding awareness of agency

As previously discussed, academics' perceptions of their ability to act, to have agency, was linked to their awareness of themselves as academics. At one end of the spectrum, academics experienced little or no agency and did not see themselves as real academics doing academic work as they understood it to be, while at the other extreme they demonstrated strong agency and on the whole their work experiences were largely in line with what they understood academic life and work to be. This spectrum identified that academics' scope for agency in the institutional context varied and that there was varying alignment between academics' visions of themselves and institutional visions of what academics should do and be. This variation suggested links with parallel studies indicating that the realisation of agency and autonomy in academic work is achieved only by some, and that increasingly in light of major trends influencing academic work the scope for agency is limited for many academics (for example; Henkel 2005, Mathieson 2011).

There were two major sites where agency was negotiated in patterns of working knowledge and its scope identified. The first focused on the constitution of the relationship between teaching and research, and the second on the absorption of administration in day-to-day work. As discussed above, there was a relationship between working knowledge of institutional administration and the other domains in

patterns of working knowledge that influenced the constitution of the relationship between teaching and research, so scope for agency was identified in each pattern

Less complex patterns of working knowledge identified limited scope for agency in determining how work was conducted. In these, teaching and research were not brought together in day-to-day work. Teaching and its administration were undertaken in an ad hoc way, and research was non-existent, though seen as something that may be achievable in the future. The 'ideal' was not realised and this process was accompanied by disappointment and disillusionment about being an academic. This arose from confusion about what was expected and anxiety about how to meet competing demands in teaching and research, and these academics clearly experienced limited control over their day-to-day work.

Academics with these patterns of working knowledge did not appear to be able to negotiate their teaching or research roles so that there was alignment between their vision for themselves and the institutional vision for teachers and researchers (Mathieson 2011). Dissonance between these visions is more likely to arise if department and institutional cultures do not support academics to understand and negotiate the competing demands made on them (ibid). Academics with less complex working knowledge had partial knowledge of the institution as well as the discipline supporting their teaching and research practices. Although it is likely that academics with limited scope for agency would be early-career academics, because this group of academics has limited knowledge of organisational norms and structures (ibid), the patterns of working knowledge suggest it is the underpinning knowledge structures that determine the scope of agency. It is possible for example, for academics to be within an institution for some time, but still not acquire enough knowledge of institutional demands to be able to negotiate how competing demands for teaching and research in day-to-day work.

Complex patterns of working knowledge indicate the reverse; that academics are able to understand and negotiate competing institutional demands for teaching and research and align these with their own visions of themselves. Consonance between these sometimes competing visions indicated broad scope for agency, and academics with these patterns

of working knowledge were able to constitute a relationship between teaching and research in which working knowledge of institutional administration supported the alignment of these. This alignment, though sometimes difficult to balance, was achieved and accompanied by feelings of satisfaction and ease with work. In these patterns for example, efforts were made to understand, interpret and reconcile their department cultures with institutional strategies, unlike the academics with less complex working knowledge. These academics experienced teaching as aligned to their research (Jenkins 2004). There was consonance between these functions as well as between the academics' visions of who they were and institutional strategies, indicating that agency was realised and its scope broad.

Patterns between less and more complex working knowledge identified consonance with institutional strategic initiatives, but dissonance between teaching and research. In these patterns, as discussed in the section above, the relationship between teaching and research was constituted to achieve outputs in one of these at the expense of the other, with the intent of demonstrating performativity of the institution's goals as they interpreted them. Academics with these patterns of working knowledge perceived their ability to act to achieve their personal goals in relation to either one or the other functions, but not both — so the scope of their work was restricted and agency was realised within localised department boundaries. Agency was negotiated in relation to the absorption of administration in day-to-day work rather than via the relationship between teaching and research, as in the patterns above, or in less complex patterns in which neither was understood or negotiated. These academics minimised administration in their day-to-day work to achieve what they believed academics should do and so perceptions were of agency and control.

The varying sites in which agency was negotiated in patterns of working knowledge drew attention to the acknowledged role of performance and audit cultures in shaping academic identities in contemporary work (for example, Archer 2008, Henkel 2005, Smith 2010). The absorption of administration was the focus of negotiation of agency in Selective working knowledge where administration was minimised and in Fragmented and Procedural working knowledge where management of it was attempted. These patterns suggest identities that are being directly shaped by these cultures and

constructed around these functions. For example, Academics with Fragmented and Procedural working knowledge identify a focus on teaching and administration, while Selective working knowledge identifies a focus on perfomativity irrespective of teaching or research.

Expanding awareness of development

As reported in chapter 6, there was expanding awareness of sources of information about how to be an academic in patterns of working knowledge. These ranged from a focus on individuals in the immediate context to a focus on the discipline and wider system. Developing as an academic ranged in these patterns from learning 'on the job' in the immediate context of work where information was sought to address issues that arose in day-to-day practice, to learning from multiple sites where issues arising in day-to-day practice were connected to wider conceptual and theoretical frameworks. The multiple sites for learning identified in the analysis draw attention to tacit understandings and practices acquired informally by academics in the institutional setting that shape how they come to see themselves and understand academic work (Knight & Trowler 2000, Trowler, 2005, 2007, Thomas et al 2011).

As in the case of perceptions of agency above, this spectrum identified dissonance between institutional perspectives and how academics saw themselves. Across the spectrum, varying sites for learning about being an academic in the institutional context identified varying alignment between formal institutional development processes and informal work-based processes. This variation suggested links with parallel studies that identify variation in academics' development in formal institutional programs for teaching (for example McKenzie 2002, Ho et al 2001, Dall 'Alba 2005, Mathieson 2011, Simmons 2011).

Less complex patterns of working knowledge (Fragmented and Procedural working knowledge) identified a reliance on informal work-based learning processes focused on individuals in the immediate context of work. In these patterns, there was an emphasis on obtaining information about how to address issues arising in day-to-day work, most of which were related to the administration of teaching. Tacit learning about being an academic was obtained from contacts in the administration, or from peers who could

answer questions about teaching-related issues. Information about being an academic was restricted to teaching and, moreover, the administration of teaching, rather than research and the ways teaching was related to research.

Academics with these patterns of working knowledge, though obtaining information about what to do in specific instances, did not access information about institutional requirements beyond these issues and were disconnected from formal developmental processes. There was dissonance between what counted as knowledge of teaching and research by the institution and what was understood by academics in these patterns. These academics were least likely to participate in, or see the point of, formal development programs, and learning 'on the job' was seen as the most useful for them. However, despite this orientation to work-based learning, the patterns suggest that this yields a narrow knowledge base that does not achieve the 'ideal', and being an academic is associated with anxiety and confusion about what is expected. These patterns suggest that work-based learning approaches to academic development will entail more attention to the nature of the tacit knowledge acquired. Further, they add support for attention to the relationship between informal and formal aspects of such programs (Warhurst 2008, Boyd 2010, Kligyte 2011).

Complex working knowledge on the other hand identified reconciliation between tacit knowledge acquired 'on the job' and theoretical conceptual knowledge acquired through formal institutional development processes. Academics with these patterns of working knowledge were likely to participate in and see the value of formal development activities offered within and beyond the institution. Consonance between the institution's vision of its academics and the individual's vision was achieved through these processes. This suggests that academics with these patterns of working knowledge could best take engage in work-based learning approaches to development; these academics are already alert to the 'affordances for learning' available in the workplace (Knight 2006, Remmik et al 2011). From this perspective, these academics are able to link information required to address issues arising in day-to-day work with broader concepts about academic work, and as noted above, the relationship between teaching and research was central to this process of connecting.

Patterns between less and more complex working knowledge identified a strategic focus on sources of knowledge about institutional requirements in teaching and research. Academics with these patterns of working knowledge were, like those above, likely to see the value of and participate in institutional development programs. However, unlike those above, they did not value 'on the job' learning to the same extent or seek to reconcile tacit knowledge of the organisation with broader theoretical frameworks. These patterns identified academics with the least likelihood of participating in or understanding the value work-based learning approaches to development and a preference for formal development programs on specific issues or ideas that could be applied to practice. On the surface, academics with these patterns appeared to be enthusiastic about institutional development activities, but their chances of achieving change in their practice were limited because of the focus on specific issues and ideas. This may go towards understanding why some academics do not achieve change in their practice, despite participating in development programs (for example, Light et al 2008, Postareff 2008).

This variation points to the impact of underpinning knowledge on how development is positioned by academics and influences being an academic. It suggests that tacit knowledge acquired 'on the job' as well as more explicit knowledge acquired through formal programs can range from a focus on information to a focus on theories and concepts, and the nature of this knowledge is important in shaping how development is understood. The patterns identify a corresponding gradation from valuing work-based learning at one end of the spectrum through to valuing formal learning in the middle to valuing both forms at the other end. This correspondence also parallels the gradation in ways of being an academic and points to the intersection between epistemology and ontology in academic development. Though this is not a new idea in discussions about academic development (see for example Dall 'Alba 2005), it is still unresolved (see for example, Boyd 2010, Remmick et all 2011, Simmons 2011)

Conclusion

This chapter dealt with the findings reported in chapters 4, 5 and 6 about the working knowledge of academics. This discussion followed the order of their analysis: from chapter 4, where a phenomenographic analysis identified the three domains of working

knowledge and described variation within these; to chapter 5, where the variation in working knowledge of the domains was the starting point for investigating the relationships between the domains and brought them back together in day-to-day work; and finally, chapter 6, where a thematic analysis of the relationships between the domains identified variation in ways of being an academic with working knowledge.

This discussion traced the identification (chapter 4), positioning (chapter 5) and influence of (chapter 6) the working knowledge of institutional administration in the constitution of academics' working knowledge of their practice. This domain of institutional administration, as distinct from the working knowledge of teaching and the working knowledge of research, yet related to both, was found to be critical to the overall definition of working knowledge. It was this domain that influenced how working knowledge of the other domains was brought together and how, through this process, the relationship between teaching and research was understood and constituted by academics interviewed in this study. It was also this domain that was influential in the ways academics saw themselves as academics. Being an academic in the institutional context was related to the sophistication of understanding in this domain of working knowledge and how teaching and research were understood and related to each other in day-to-day work.

The identification, description and analysis of this domain drew the institutional context of work into sharp focus. 'Working approaches' to teaching and research as well as 'Working identities' were implicated as the results of engagement with the institutional context. This engagement, gauged in the sophistication of working knowledge of institutional administration, varied according to how the institution was understood; its purpose functions and processes. From this perspective, academics' experiences of teaching and research reported in the phenomenographic literature can be read as experiences of the institution, and approaches to these informed by judgements about what is possible and what is not in the immediate context of work. The importance of perceptions of factors in the immediate context of work is well articulated in this literature — especially in relation to teaching, but the identification of this discrete domain of working knowledge about the institution in this study, suggests a more nuanced and global knowledge base informing academics' approaches to aspects of

their work. From this viewpoint, the trend towards administration in academic work is also more nuanced, and academics' responses to demands for change are better illuminated. This has been a gap identified in the wider literatures dealing with academic practice and understanding the conditions of contemporary academic work (Kreber 2101, Sutherland & Taylor 2011).

Whilst it would be tempting to make a claim for the pre-eminence of the institutional context in understanding the conditions of contemporary academic work, on the basis of these findings to do so would be overly simplistic. The analysis identifies that working knowledge of academic practice is underpinned by more fundamental understandings of knowledge or epistemology. From this position, 'Working approaches' and 'Working identities' — the ways working knowledge of the domains manifests in day-to-day work — are expressions of epistemological and related ontological stances in practice. In these, the working knowledge of institutional administration, though influential in determining the relationship between teaching and research, reflects the overall level of sophistication of an academic's underlying epistemology.

This overall level of sophistication identifies a more interesting perspective on the contextualised nature of academic work and the role of the institution in its construction. Working knowledge of institutional administration, as the window into academics' understandings of the institution, appears to be necessary but not sufficient for the constitution of a well-developed relationship between teaching and research. Where the overall level of sophistication is low, the relationship is not well developed and working knowledge of institutional administration subsumes working knowledge of the other domains, which reflects partial knowledge of the discipline or field. The reverse is found where the overall level of sophistication is high and teaching and research are well related. In these instances, working knowledge of institutional administration mediates knowledge in the other domains, which includes knowledge of teaching and research in the discipline or field.

A comparison of these levels of sophistication with academics' understandings of their subject matter, reported in phenomenographic studies (Martin et al 2005, Prosser et al 2008), suggests that knowledge of the discipline or field (subject matters) and working

knowledge of institutional administration mediates the relationship between teaching and research. Further, this relationship is well developed when both knowledge of subject matter and the institution are at more complex levels. Where knowledge of either is out of balance the relationship between teaching and research will be correspondingly out of balance and day-to-day practice is dominated by one or other of the domains (including institutional administration).

The overall sophistication of underlying epistemologies in working knowledge goes toward explaining academics' responses to demands for changed practices. Where overall levels are low and epistemological stances in practice are founded on partial knowledge of the discipline or field of study and the institution, there is less likelihood of change informed by understandings about new modes of knowledge and its production. This is not the case where the levels of sophistication are high. This indicates that only some academics will be able to respond to demands for change, as predicted, (Boud & Symes 2000) and observed (Churchman 2006). However the underlying epistemological stances of working knowledge identify likely responses and tie these to understandings of new and existing modes of knowledge production. Variation in these understandings, ranging from incomplete knowledge of both modes to holistic knowledge of both modes and the relationships between them, provides a detailed account of the ways practices associated with both modes may exist simultaneously within one institution (Boud 2000). This account also acknowledges academics' perceptions of the institutional context, their understandings about what is possible, and the decisions they make in response to these understandings. From a phenomenographic perspective, variation in approaches to teaching and research are accounts of multiple practices or epistemological stances.

This study also gives access to discussions about academic identities, as the sophistication of underlying epistemologies in working knowledge is linked to ways of being an academic. Variation in ways of being an academic suggests that multiple academic identities can be also found within an institution, reflecting the multiple practices that also exist (Clegg 2008, Kligyte 2011). The nature of this variation however, is distinguished by the extent of dissonance or consonance with an 'ideal' of being an academic in light of perceptions about what is possible within the institutional

context. This relative distance is measured as a 'working identity' that, to varying degrees, is reconciled with the self. Where the underlying level of sophistication is low the 'working identity' is removed from the self and is expressed in day-to-day work in role definitions, whereas if the level is high it is expressed as a projection of personal values and beliefs.

References to the 'ideal' of being an academic in these ways of being gives some support to the view that academic identities are not being changed beyond recognition in the face of demands for changed practices, and that they are still formed by reference to the idea of autonomy (Archer 2008). These ways of reconciling the 'ideal' with the realities of day-to-day work in the institution suggests that academics are creating spaces in which to establish and protect their identities as academics (Clegg 2008). However, these trends appear to be most active where the underlying epistemologies of working knowledge are sophisticated and founded on knowledge of theories and concepts. In these cases, identities reflect conceptual knowledge of being an academic in which the 'ideal' is reconciled with institutional demands. Where they are less sophisticated and founded on understandings of knowledge as information, identities reflect a lack of reconciliation between the ideal and the self and these are likely to reflect role descriptors determined by the institution and its requirements. These cases tend to support the view that academics will struggle with institutional demands and adopt identities they are uncomfortable with (Churchman 2006, Remmik et al 2011, Simmons 2011, Gale 2011).

From a phenomenographic perspective, the range of identities suggested in ways of being an academic with working knowledge invites speculation about how these relate to conceptions of, and approaches to, aspects of work such as teaching and research. It would appear that there are strong parallels between experiences of these phenomena and working knowledge that underpin these experiences, and less complex experiences of these appear to be linked to less complex working knowledge and vice-versa. The complexity of working knowledge identifies the complexity of underpinning epistemologies and ways of being an academic. This suggests that less complex experiences of teaching and research are related; via less complex working knowledge underlying epistemologies, to less complex ways of being an academic that identify

fragmented identities. The reverse would apply in relation to complex working knowledge that could, through this process, be related to consolidated academic identities. This set of relationships takes up a hypothesis developed by Light et al (2008) in which fragmented knowledge is, it is argued, hypothetically related to fragmented identities. More work would need to be done to establish these relationships more comprehensively.

One particular site for investigation of this hypothesis and the challenges it poses is the 'watershed' category of Selective working knowledge that stands between the two extremes identified above. As noted throughout the discussion, this category of working knowledge appears to identify well-developed practices and secure identities, but on closer examination, it suggests contradictory practices and identities. This category occupies the same position between the extremes of the spectrum of experiences of teaching and research that has attracted discussion in the past (see Samuelowicz & Bain 1991 for example), and may offer more insights into the complexities and contradictions facing academics in contemporary universities.

Of particular interest is the issue of ontological security for academics; academics with less complex working knowledge were less secure in who they are and what they do as academics than others, and those in the Selective working knowledge category were secure, but only so far as they understood institutional requirements. This issue appears for example, to connect to discussions about the focus and nature of the Scholarship of Teaching and Learning (SOTL) (Kreber 2010), and may be a means of extending these understandings. This intersection between institutional knowledge, practice and identity would frame further work.

In the next chapter I briefly explore further the implications of these findings for the larger field of higher education research, especially with reference to the implications for academic development. As noted in the literature review this study has potential to comment on work in a number of sub-fields comprising the larger field of higher education research (Kandlebinder 2011).

Chapter 8 Implications for phenomenography and academic development

I began this thesis with reference to my academic development work at Victoria University and my concern about the lack of salient and satisfying development in the professional lives of the academic staff with whom I work. I explored what it means to work as an academic — what it is that academics need to know on a daily basis to play a scholarly role in a contemporary university. In the closing sections of chapter 2 (the literature review) I identified the potential of this study to comment on and contribute to three sub-fields in the area of higher education: work, learning and teaching, and research. All are implicated in the concept of 'working knowledge', which brings together the ideas of learning, work, knowledge and identity. As a phenomenographic investigation of academics' working knowledge, the study is positioned within a tradition of phenomenographic research with a strong focus on learning and teaching and, through this, academic development. The concept of working knowledge has potential to offer a new perspective on learning and teaching, one that supports a holistic view of academic work and understands that teaching and research and associated administration are related.

In this final chapter, I discuss the possible future for the development of academic staff in the light of what I have learned through this study and for my own academic work. I start with a discussion about phenomenography and how the study contributes to this research tradition.

Phenomenography

Though it was anticipated from the literature review that the topic would pose challenges in its exploration from a phenomenographic perspective, these were neither fully appreciated nor encountered until a 'traditional' phenomenographic analysis of working knowledge was attempted. It was assumed in embarking on this analysis, that categories of description would elicit the nexus between learning, knowledge, work and identity that are at the core of this concept. This, as reported in chapter 3, was not the case.

The analysis utilised the findings from the 'traditional' approach, which drew on recent work in phenomenography that was also dealing with the simultaneous analysis of multiple phenomena, most notably, the work of Prosser et al (2008) and Akerlind (2008). Their work was adapted to the study so that descriptions of academics' knowledge and ways of being were rendered accessible and the links to learning and work more observable. The approach adopted demonstrates the robustness of these methodological innovations and their adaptability to the analysis of multiple phenomena.

The study's contribution to phenomenography is in its combination of these approaches, resulting in descriptions of a multi-phenomenal field and associated knowledge and ways of being. This combination resulted in descriptions that make the nexus between knowledge and identity more open to analysis and interpretation. As reported, ways of being an academic with working knowledge were juxtaposed with ways of knowing that underpin academic practice. In this juxtaposition, it was possible to identify experiences of trends that influence the conduct of work in academic practice, and so offer insights about how these are experienced 'on the ground' and from the perspective of academics.

The study's contribution to phenomenography can also be counted in the way it connects experiences of trends to causal accounts of trends found in more sociologically based literature. In the present study, trends influencing academic work identified in the sociological literature were discernible in the working knowledge of academics. Moreover, variation in working knowledge offered insights into the different ways in which academics are responding to these trends. Though phenomenographic work has always been located within the field of higher education and the trends and issues influencing the conduct of teaching and research, the approach taken in the present study makes these connections explicit.

An important connection to these trends is in the ways phenomenographic descriptions of being an academic with working knowledge engage with discussions about academic identities. These descriptions, from the perspective of academics, add detail to broad-brush descriptions of academic identities and illustrate how these trends, in

combination, manifest in the ways academics see themselves in contemporary work. This important connection builds on existing phenomenographic work that relates being a teacher and researcher and academic (Akerlind 2008). Being an academic with working knowledge gives an institutional context to the experiences of being a teacher and a researcher. This refines existing descriptions of these experiences and positions them as more accessible to the broader discussions about trends such as managerialism and globalism in academic work. Through this methodological approach and topic perspective, the 'reach' of phenomenography is widened and its boundaries stretched.

Academic development

The study suggests that the idea of ontological and epistemological certainty, found at the most sophisticated levels of working knowledge, may be considered as the *object* of academic development practice in the contemporary university, and that the working knowledge of academic practice should be its *subject*. The links between working knowledge and academic identity I have identified suggest a strong argument for a focus on understanding what *counts* as knowledge of teaching, research and institutional administration within the institutional context, and on understanding how this manifests in academics at different levels of sophistication. The claim that working knowledge should be at the core of a new era of academic development comes in response to calls for a new epistemologically strong and coherent development framework (Peseta 2011), especially given the fragmentation and diversity in contemporary academic work. What is critical to defining what academic developers can and must 'profess', is a unifying set of ideas and concepts that 'resonate and have utility' (ibid).

The ideas and concepts identified in this study stem from recent work about the changing conditions of knowledge and its production, as well as from the socio-cultural theories of learning that these works draw on. However, as noted in chapter 3, it is theories of learning found in phenomenography that underpin the method adopted for the present study, which accepts that there will be variation in experiences of working knowledge and experiences of work — learning and being — which intersect in the lives of contemporary academics. The ways academics learn about how to work, and be, in the institutional context are canvassed in the study's findings — the variation in

working knowledge pointing to differences in *what* and *how* academics learn by engagement with the institutional context.

The interplay of context and work, learning and being, is highlighted in the variation of working knowledge described in chapters 4, 5 and 6. What I propose to do below is briefly canvass related concepts and ideas that could be considered in discussions about the epistemological foundations of the field. These flow from the proposition that working knowledge as a concept has utility in academic development, and that the ideas flowing from it have resonance in the field because they extend current approaches and concepts.

The idea of 'working' approaches to teaching, research and institutional administration

Chapters 6 and 7 identified 'working approaches' to teaching, research and institutional administration and 'working identities' in practice — ways of *doing* and *being* that reflect the realities of working life, not the ways academics idealise their work or the idealised ways they see themselves. The study highlights variation in the gap between what academics see as the 'ideal' of academic work and being an academic, and what they actually embody and do in their work. The greater the gap between the ideal and reality, the greater is the fragmentation of academic practice and identity.

Using the idea of working approaches and working identities allows for discussion of the gap between the ideal and the reality of 'doing' and 'being', and invites reflection on the compromises that academics can and do make. The idea resonates with discussions in the phenomenographic literature about the gap between academics' *conceptions* of learning and teaching-related phenomena and their *approaches* to these (Prosser and Trigwell 1999, Trigwell and Prosser 2000, Martin et al 2004), as well as between how they *conceive* and *approach* research (Prosser et al 2006, Akerlind 2008), and throws light on the common observation that academic development has low impact because it is difficult to sustain change in practice after a formal course of study, and once academics return to work (cf. McKenzie 2004, Postereff et al 2008, Light et al 2008).

The idea of institutional knowledge

The study identifies working knowledge of institutional administration as critical to the constitution of working knowledge of teaching and research and, ultimately, day-to-day work. Its *object* is working in the institutional and broader context, and its *subject* is what counts as knowledge in the institutional context. Like working knowledge of teaching and research, it is acquired 'on the job', and is largely tacit. As discussed in chapter 3, academics in the study were ambivalent about the legitimacy of this knowledge — notwithstanding that it was identified either directly or indirectly by *all* academics in the study. But as the findings reported in chapters 4, 5 and 6 demonstrate, working knowledge of institutional administration *is* important — whether academics value it or not — because, I argue, it plays a critical role in mediating how institutional requirements for teaching and research are understood and enacted in day-to-day practice.

The complexity of this domain is important to the relationship between teaching and research: where it was complex, the domains were in balance, and where it was less complex, the balance was not achieved. As described in the study, this complexity mirrors the extent of exposure to institutional discourses influencing how institutional requirements for teaching and research are conveyed: more complex working knowledge of this domain signalled exposure to multiple institutional sources of knowledge about what was expected, while less complex working knowledge reflected limited exposure. This suggests that institutional discourses shaping what counts as knowledge of teaching and research is an obvious focus for academic development, with an emphasis on critiquing how teaching and research practices are institutionally shaped. As this study has shown, institutional shaping is multifaceted, and raising awareness of multiple discourses within institutional settings will serve to support agency and control over what is put into practice.

This resonates with calls for more 'spaces' in which academics can construct their practices and identities (Archer 2008), and acknowledges the need for more strategies to empower academics to respond to demands for change (cf. Martin 2000, Barnett 2005, Sutherland & Taylor 2011, Gale 2011). The emphasis on sources of knowledge in the immediate institutional context also suggests a realistic application of the concept of

'communities of practice' (Lave1991) to the conditions of academic work (Tennant 2000) — with the concept applied in relation to discourses and interpreted by identifiable 'communities' located in the institution.

The idea of mode 3 learning

What is advocated is the application of 'a pedagogy for human being' (Barnett 2004, p247) to academic development. The idea of a 'being mode' of learning aims to ensure that learners are able to make choices about the world and how to operate in it — that they are able to take action, especially in response to change. In short, this mode aims to engage the notion of agency, and the key teaching task is 'an ontological task' (ibid, p253).

Arguments for favouring ontology over epistemology are found in the academic development discourse (for example, Dall'Alba 2005), and arguments for a movement away from a focus on skills and techniques (for example, Prosser et al 2005, 2008) can also be read as part of this wider discussion. By drawing attention to the knowledge of everyday practice as the creation of embodied knowledge in practice, the study's findings emphasise the relationship between ontology and epistemology — the connection between who we are and what we know. This connection, though acknowledged in the academic development discourse, is underplayed and sometimes obscured in discussions about a movement away from skills and techniques (for example, Prosser et al 2005). What is clear from the present study is that, for many academics, ontological security is *not* a given, and it is a struggle to achieve a sense of comfort and security in being an academic. Among my informants, the academics most secure in their identities as academics were those with the most structurally complex working knowledge, and those who were least secure were those with the least structurally complex working knowledge. Of particular importance to institutions is that academics' capacity to confidently understand and respond to demands for change corresponded with their levels of security about who they were.

As noted in chapter 2, supporting academics in responding to demands for change is a strong and unifying theme in the academic development discourse. The connection made in the present study between working knowledge, ontological security and

capacity to respond to change suggests that the conditions of academic work, and the factors influencing change, are — or should be — also part of the content of academic development. In examining how academic work is changing, academics can position themselves in this landscape and come to understand the diversity of academic practices and the variety of ways in which they can see themselves. This idea resonates with discussions in the academic development discourse. But what is advocated here is that the focus of this mode of learning is the *whole* of academic work — another theme referred to in discussions about academic development (for example, Brew 1996, Akerlind 2005, Ahlberg 2008, Mathieson 2011). The notion of *working knowledge* brings a new perspective and offers opportunities for discussion and informed decision-making about what confronts academics in their day-to-day lives.

Conclusion

By connecting to these broader discussions and incorporating concepts and ideas from other discourses, I argue for the consideration of working knowledge as the *subject* of academic development and for epistemological certainty and ontological security as its *object*. The thesis that emerges from the study is that the nature of academics' working knowledge is defined by their knowledge of the institution and the context of their academic work, including the institutional context, with the study demonstrating that working knowledge of the institution is pivotal to working knowledge of academic practice in which teaching and research are daily brought together. My argument is that by attending to what academics *need* to know in order to work, it is possible to develop their understandings about their practice and their identity. The argument for focusing on ontology and epistemology runs parallel to the argument for similar approaches to student learning for the 21st century (Barnett 2004, 2005), and creates ways of connecting what academics are increasingly asked to do to support student learning to the ways that they themselves learn. It also creates ways of connecting what academic developers are asked to do to support academics in the face of demands for new approaches to helping academics learn.

Epilogue

In the eight years since the study began, change has continued to characterise work at Victoria University as it has in other institutions. Of the 20 academics who participated in the study, five have left the university and academia altogether, and three have gone to other institutions.

Interestingly, those who left academia altogether were identified with less complex working knowledge of academic practice and were typically disillusioned with their experience of academia. One who saw me before her departure said that she was very sad about leaving but felt that it was too chaotic, she felt unsupported and was constantly under pressure to get things right. She told me that she thought she would be sitting in a library reading and discussing interesting issues with other academics when she took the job — instead, she spent all of her time correcting exam papers and completing paperwork. She was happy to return to her professional work as a nurse, and felt that academic work was ‘crazy’.

This, I realised in light of the findings of my study, was typical of academics with fragmented working knowledge of their practice, fragmented knowledge of the institutional context of practice and possibly a fragmented academic identity. I understood that the epistemological orientation was knowledge as information and thus practices in teaching and research were shaped by these understandings. The way forward with this person would have been to build awareness of the institutional context of teaching and research, while also encouraging her to engage with the idea of being an academic in that context.

The departure of the three academics who left for other institutions was not a surprise in light of the findings: all had high levels of functioning working knowledge of academic practice. The motivation for leaving for one of these academics typified for me complex working knowledge. In this case, he was regretful, but the new institution offered opportunities to extend his research — he was looking forward to working at close quarters with other researchers in his field as well as working with postgraduate students. It was clear that his working knowledge was associated with knowledge of the discipline as it applied to his teaching and research. I understood from this that he had a

strong sense of himself as an academic and his knowledge of the domains of teaching and research was well integrated.

The findings of my study informed the ways I thought about and subsequently developed my professional practice. These influenced the design of activities that took a holistic perspective on academic work and focused on building awareness of being an academic in the institutional context. These activities in turn enriched my understandings of academic work from the perspective of academics. This led to a closer examination of working knowledge and the adoption of an analytical framework not initially conceptualised in the study design. Although this elongated the study, it resulted in the development of a methodological innovation to better describe academics' working knowledge. I presented the findings as they unfolded at two national and three international conferences during the life of the study.

The study continues to influence my professional practice despite having changed work roles and focus: the centre I worked in was restructured twice during the period of the study. My understanding of academics' working knowledge, and the variation that exists, is now a reference point for my professional practice. My working knowledge as well as my professional identity has changed during the life of the project, less because of the structural changes taking place around me in the institutional context and more because of how the study's findings have deepened my knowledge of academic work and the role that academic development can play.

My experience of change in the institutional context is not unusual for academics and especially academic developers; it is almost a truism that centres for learning and teaching in higher education institutions are subject to change and restructuring on a continual basis. These changes, endemic to the system, seem to signal a major repositioning of academic development in institutions and the sector as a whole. This changing landscape suggests the need for rethinking of this field of practice.

The findings of this study, which reposition the subject and object of academic development towards holistic considerations of work, suggests that working knowledge fits this shift.

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