

**Variation and change in university
teachers' ways of experiencing teaching**

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Certificate of Originality

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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Table of Contents

Chapter 1

Introduction and rationale for the study	1
External pressures for change in university teaching.....	2
Research on university teaching and student learning.....	5
A personal context for the study	7
Current understandings of how university teachers change their way of experiencing: an overview	8
The focuses of this study and outline of the thesis	10

Chapter 2

University teachers' ways of experiencing teaching: perspectives from the literature.....	16
Research related to teachers' ways of experiencing teaching	17
An overview of conceptions of teaching, orientations towards teaching and related studies.....	18
Teacher-focused/teacher-centred categories.....	22
Student-focused categories	24
Categories in the middle – transitional, provisional or unclear?	25
Issues in identifying and interpreting change in ways of experiencing.....	26
Are categories sufficiently well described and distinctive?.....	27
The meaning of change between categories: expanding patterns of awareness or different sets of beliefs?	30
Relations between conceptions and approaches, or beliefs and practices, and the effect of teaching contexts.....	32
Awareness and the experience of teaching	34
A framework for analysing the experience of teaching.....	37
The direct object of teaching.....	39

The act and indirect object of teaching	40
Chapter summary	42

Chapter 3

How do university teachers’ ways of experiencing teaching

change: perspectives from the literature 44

Change as learning to experience teaching differently	45
Literature on teacher learning and change in higher education	50
Teacher learning as acquiring and applying teaching strategies.....	50
Teacher learning as developing and learning from experience	54
Differences in individual teachers’ development.....	56
Teachers’ conceptions of developing teaching or change in teaching.....	57
Summarising developmental perspectives	58
Teacher learning as conceptual change.....	59
Conceptual change models and university teachers' learning.....	61
Teacher learning through critical reflection.....	64
Transforming teaching through reflection and action: participatory action research and teaching communities.....	66
A framework for describing the experience of change in teaching	67
Chapter summary	71

Chapter 4

Methodologies for researching variation and change in ways of

experiencing 74

From “classical” to “new” phenomenography – a tradition of research into variation and experience	74
Reasons for choosing phenomenography as a research approach for this study	79
Issues in phenomenographic research: data, interpretations and outcomes.....	81
The nature of interview data	82
The outcomes of phenomenographic research: categories of description and relations with individual experience	86

Questions of validity, reliability and generalisability	89
Approaches to this study	93
Selection of teachers to participate in the study.....	94
The pilot group.....	96
The second group	97
The overall group	97
Constituting the data: Interviews and transcription	98
Interviewing	99
Transcription	105
Analysis of transcripts in relation to the different components of the study ...	106
Initial analyses of pilot data	106
Focuses for subsequent analyses.....	108
Constituting categories of description related to teachers' ways of experiencing teaching	111
Constituting categories of description related to teachers' ways of experiencing change in teaching	114
Constituting themes in the critical experiences and orientations related to change in ways of experiencing	115
Interpreting change in individuals' ways of experiencing from a phenomenographic perspective.....	118
Creating individual vignettes	120
Chapter summary	122

Chapter 5

Variation in ways of experiencing teaching..... 123

Categories of description	124
Category A: Teaching as transmitting information so that it is passed on to students.....	124
Category B: teaching as organising, explaining and demonstrating information so that students acquire disciplinary concepts and methods....	127

Category C: Teaching as teacher-focused interaction with students and student activity to help students to become capable of using the concepts and methods of the discipline or profession.....	130
Category D: Teaching as a facilitative process of relating teaching to learning to help students to develop their own disciplinary or professional understanding.	138
Category E: Teaching as guiding students to explore and develop professionally and personally and become independent as learners.....	146
Category F: Teaching as challenging and enabling students to change the relation between themselves and the world.	150
Relations between categories	154
The structure of the outcome space: logical relations in structure and meaning.....	155
Relations discerned in teachers' descriptions	158
Critical aspects and dimensions of variation	161
Chapter summary	169

Chapter 6

Change in teachers' ways of experiencing teaching..... 171

Individual teachers' ways of experiencing teaching: change and stability over time.....	172
Relations with perceptions of the teaching situation	178
What change is like and how it comes about: individual teachers' experiences.....	183
Vignette 6.1: Neil.....	183
Interview 1	183
Interview 2	186
Vignette 6.2: Ellen	189
Interview 1	189
Interview 2	193
Aspects of how change comes about: patterns of critical teacher experiences and orientations	197

Critical experiences and situations which afford them	198
Experiencing teaching from the students' perspectives	198
Experiencing different perspectives from different students	200
Bringing about change in one aspect of teaching and discerning variation in other aspects.....	201
Being a learner/observer	205
Being oriented towards experiencing situations in ways which afford change in ways of experiencing teaching	207
Awareness of dissonance, dissatisfaction and/or a desire for improvement	208
Putting teaching into focus.....	210
Reflective thinking informed by formal learning	211
Patterns of variation and the process of change.....	217
Chapter summary	221

Chapter 7

Ways of experiencing change in teaching 223

Variation in teachers' ways of experiencing change in teaching.....	224
Category cA: Experiencing change as changing the content which is taught ..	227
Category cA1: Changing the selection of content included or excluded.....	227
Category cA2: Changing the way the content is organised for and represented in teaching.....	230
Category cB: Experiencing change in teaching as changing teaching strategies.....	234
Category cC: Experiencing change in teaching as relating teaching more closely to learning	240
Category cD: Change in teaching as coming to experience teaching in a more student-focused way through improving understanding of teaching and students' learning.....	247
Relations between categories: Dimensions of variation and relevance structures related to ways of experiencing change in teaching.....	252
Chapter summary	255

Chapter 8

Patterns relating teachers' ways of experiencing change in teaching to their ways of experiencing teaching over time 256

Pattern 1: A teacher-focused way of experiencing teaching with teaching-focused ways of experiencing change in teaching	261
Vignette 8.1: Andy – change within teacher-focused ways of experiencing...	265
Interview 1	265
Interview 2	267
Interview 3	270
Pattern 2: A teacher-focused interaction/student activity way of experiencing teaching with aspects of a student-learning focused way of experiencing change in teaching.....	273
Pattern 3: A student-focused way of experiencing teaching with a student-learning focused way of experiencing change in teaching	277
Pattern 4: A student-focused way of experiencing teaching with a student-learning and teacher-understanding focused way of experiencing change in teaching	279
Vignette 8.2: Tim - changing from teacher-focused to student-focused ways of experiencing teaching.....	280
Interview 1	280
Interview 2	284
Interview 3	288
Summary and interpretation: Change from teacher-focused to student-focused ways of experiencing. How does it come about?	292

Chapter 9

Variation and change in teachers' ways of experiencing teaching and the space of variation for university teachers' learning..... 298

Patterns of variation and change in teachers' ways of experiencing teaching.....	301
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Critical experiences of variation related to student-focused ways of experiencing teaching	302
Experienced relevance structures.....	306
Revisiting and extending the literature on teacher reflection and change	310
Informing conceptual change perspectives	310
Revisiting reflection.....	312
Relating patterns of variation and change to the literature on teacher development and to teachers' conceptions of developing and changing as teachers	314
Teacher-focused patterns of change and development	315
Student-focused patterns of change and development.....	317
What does this say about teacher development and change over time?	319
Further contributions of this study	321
Implications for academic development: Creating a space of variation for university teachers' learning.....	324
Summary and conclusion	328
References	275

List of figures

Figure 2.1	The experience of teaching: an analytic framework.....	39
Figure 3.1	A framework for analysing teachers' experience of change in teaching.....	70
Figure 4.1	Interview schedules.....	101

List of tables

Table 2.1	Summary of key studies on conceptions of and orientations towards teaching	21
Table 5.1:	Relations between categories of description for ways of experiencing university teaching	156
Table 5.2	Critical aspects of ways of experiencing in relation to the direct object, indirect object and act of teaching	163
Table 6.1	Ways of experiencing teaching described by individual teachers across their interviews	174
Table 7.1	Outcome space for teachers' ways of experiencing change in teaching.....	226
Table 7.2	Variation and relevance structures related to different ways of experiencing change in teaching.....	253
Table 8.1	Relation between individual teachers' most complex ways of experiencing teaching and ways of experiencing change in teaching, in the interview in which they described the most complex way of experiencing change.....	258
Table 8.2	Patterns of connection between change in ways of experiencing teaching and ways of experiencing change in teaching.....	260
Table 8.3	Patterns of relations between ways of experiencing change in teaching, teaching and learning in relation to teaching	293

Abstract

This thesis explores how university teachers' ways of experiencing teaching change from teacher focused to student focused and why some teachers experience this change while others do not. The exploration adopts the theoretical perspective of variation, learning and awareness (Marton and Booth, 1997) and is based on a two-year longitudinal interview study of 27 university teachers. Classical and new phenomenographies were used to constitute teachers' ways of experiencing teaching and teachers' ways of experiencing change in teaching. Changes in individual teachers' ways of experiencing were described and interpreted through focusing on teachers' awareness of critical aspects and related dimensions of variation, creating individual vignettes, and constituting themes in the critical experiences and orientations related to change.

The outcomes included six ways of experiencing teaching and their complementary patterns of critical aspects, a set of themes related to change in ways of experiencing and five ways of experiencing change in teaching. Combining these outcomes resulted in four patterns which illuminated why some teachers' ways of experiencing teaching became student focused while others remained teacher focused.

Teachers who became capable of experiencing teaching in student-focused ways focused on understanding teaching in relation to students' learning. They experienced change in teaching as becoming more student-focused or as relating teaching to development or change in student understandings, and were oriented towards putting teaching into focus and reflecting in ways informed by formal learning. These teachers experienced relevance structures which brought the critical aspects of student-focused ways of experiencing teaching to the foreground of their awareness so that they experienced corresponding dimensions of variation. Their

awareness of teaching expanded and this corresponded to a shift in the focus and meaning of teaching.

Teachers who remained teacher focused also sought to change their teaching, but focused on their own interest, comfort, efficiency or innovative practices and their students' reactions. These focuses related to experiencing change in teaching as changing content or strategies. Teachers who took these focuses experienced different relevance structures in situations for learning about teaching, such that they did not discern and focus on the critical aspects of student-focused ways of experiencing teaching. A few teachers who remained teacher focused perceived themselves to be relating teaching to learning, but saw learning as acquiring and applying external knowledge. They experienced simultaneous variation in aspects of teaching and aspects of student participation or motivation, but not in ways of experiencing learning or teaching.

Chapter 1

Introduction and rationale for the study

How do university teachers change their ways of experiencing teaching? Why do some teachers become capable of experiencing teaching in student-focused ways, while others maintain teacher-focused perspectives in the face of new demands and changing teaching contexts? These questions are important for university teaching in a context where change is rapid and the future is uncertain. This thesis attempts to provide some responses to these questions, and in doing so to identify some ways forward for those who are trying to improve university teaching.

Following the theory of variation, learning and awareness (Marton and Booth, 1997; Marton and Tsui, 2003), this thesis argues that we need to have more precise understandings of the critical aspects of student-focused ways of experiencing teaching, and we need to know more about how teachers come to discern them and become capable of experiencing teaching in student-focused ways. It then argues that teachers discern particular patterns of critical aspects through a series of critical experiences in informal and formal learning situations, and through being oriented towards these situations in ways such that they experience relevance structures which bring the critical aspects to the foreground of their awareness. Teachers who do not become aware of the critical aspects of student-focused ways of experiencing teaching differ from those who do in their orientations towards situations of learning about teaching and in their ways of experiencing change in teaching. Rather than intending to relate teaching more closely to learning or to understand and become professional in teaching, they focus on changing strategies or content organisation to improve their teaching comfort or efficiency or their students' reactions, or on changing content selection to improve their personal level of interest. They may also

intend to relate their teaching more closely to student learning, but see learning in a limited way, as acquiring and applying external knowledge.

The outcomes of this thesis arose from a study which began with the proposition that it is desirable for teachers to experience their teaching in student-focused rather than teacher-focused ways. This proposition is grounded in three broad contexts: firstly, the external context of pressures for change in university teaching; secondly, the context of research into university teaching which points to the nature of good teaching and the need for improvement; thirdly, my own personal context of being an academic developer who works with university teachers and seeks to find better ways of enabling them to enhance, broaden or change their ways of experiencing teaching. I will provide an overview of these contexts in the next sections of this chapter, then briefly outline what we know about change in university teachers' ways of experiencing teaching and how this leads to the focus questions for my study. I then end the chapter by providing a summary of the key points addressed in each of the following chapters.

External pressures for change in university teaching

University teaching is faced with multiple external pressures, from governments, employers, changing social, economic and technological contexts and the changing needs and desires of students. In Australia and the UK, reduced government funding has meant reduced resources and the need to do more with less. Mass higher education has brought increased student numbers and different kinds of students with different expectations of their university experience. There are demands to improve the teaching quality, to make universities and teachers more accountable and to make university education more relevant to a rapidly changing economy. Globalisation and technological advances are bringing increased competition, but also create opportunities for very different learning experiences for students and teachers. In the face of these environmental changes, university teachers are expected

to improve the quality of their teaching and their students' learning outcomes at the same time as being more efficient and taking on new and expanded roles (Taylor, 1999).

Technological change is creating some of the most immediate opportunities and challenges for university teachers to change the ways in which they teach and enable students to learn. There is much rhetoric on the potential of the world wide web and other technologies for transforming learning experiences, but while particular technologies might enable qualitatively different learning experiences and afford high quality student learning, whether their potential is realised depends on the teachers who design the learning experiences (Laurillard, 2002; Alexander and McKenzie, 1998). Teachers with different educational beliefs take different focuses when designing and using computer-based learning (Bain and McNaught, 1996; Bain, McNaught, Mills and Lueckenhausen, 1998). Teachers acting from a teacher-focused perspective are more likely to focus on the technology in itself or on its efficiency or control benefits, whereas those acting from a more student-focused perspective are likely to focus on the benefits for learning and on designing innovative experiences to bring learning about (Housego and Freeman, 2000; McKenzie, 2002a). There is a growing awareness that many university teachers will need to broaden and change their ways of experiencing teaching if the potential of learning technologies is to be realised.

Further external pressures are coming from the overall pace of change in the world in which university students and teachers live and work, a world characterised by uncertainty and supercomplexity (Barnett, 2000). As Bowden and Marton (1998) argue, universities are preparing students for a largely unknown future in a rapidly changing world. Students are expected to graduate with degrees relevant to the demands of current workplaces as well as a capacity for lifelong learning to enable them to adapt to the unknown situations they will face in their future lives. This means a different curriculum which goes beyond that of the traditional discipline-based university course. It is no longer enough for university teachers to be experts in the knowledge of their discipline or profession, and to teach this knowledge in traditional ways. Teachers need to learn how to design and teach in graduate attributes-

based courses, how to work in multi-disciplinary teams and how to foster student inquiry and research. This is a dramatic change for many teachers, both in the content that they teach and in how they go about teaching.

If teachers are to help students to develop the capacity to learn for an unknown future, they also need to possess this capacity in relation to their own teaching and academic work. Since Boyer's (1990) report on scholarship in academic work, there have been increasing calls for university teachers to be engaged in scholarship in teaching. Scholarship in teaching demands that teachers engage in critical inquiry, not just into what they teach, but how they teach particular subject matter, and how students come to engage with and understand it. This requires ongoing engagement with the literature on teaching and learning as well as the literature of the discipline, critical reflectivity, ongoing inquiry and engagement in communication with and evaluation by peers (Andresen, 2000; Trigwell, Martin, Benjamin and Prosser, 2000). According to Trigwell et al (2000) a complex conception of scholarship in teaching focuses towards improving student learning generally in the academic community by communicating the findings of investigations into teaching and learning. Engaging in this scholarship is only possible for teachers who experience teaching in a student-focused way.

Some more recent writings have taken scholarship in teaching further to emphasise the desirability of bringing about closer relations between teaching and research for the benefit of teachers and students (Brew, 2003; Lueddeke, 2003). For teachers, bringing about these closer relations might include involving students in research and inquiry based learning (Brew, 2003), engaging in research into the learning of their disciplines (Bowden and Marton, 1998); engaging in action research into teaching and learning in their own contexts and publishing the results in teaching portfolios and/or publications (Light and Cox, 2001).

Greater teacher engagement in the scholarship of teaching and enhanced relations between research and teaching are unlikely if teachers experience teaching only as transmission of objective knowledge from teachers to students (Brew, 2003). According to Brew, this

view separates research, which generates knowledge, from teaching, which transmits it to students. Research and teaching are seen as competing for academics' time, and students are not seen as legitimate peripheral participants (Lave and Wenger, 1991) in academic communities of practice. Only teachers who experience teaching as student-focused conceptual change and see knowledge as constituted and problematic (Prosser and Trigwell, 1999; Martin, Prosser, Trigwell, Ramsden and Benjamin, 2000) are likely to see both teachers and students as engaged in common scholarly learning communities (Brew, 2003). Teachers who are aware of conceptual change/student focused ways of experiencing teaching are more likely than those who are transmission-focused to value engaging students in research, adopting inquiry approaches in classroom situations and participating themselves in seminars and workshops on the scholarship of teaching (Lueddeke, 2003).

Student-focused ways of experiencing teaching are therefore seen as necessary if teachers are to continue to teach and learn, and help their students to learn for an unknown and increasingly complex future (Bowden and Marton, 1998; Barnett, 2000). They are also necessary if teachers are to help students to understand the complexities of subject matter in the present, as the following section will illustrate.

Research on university teaching and student learning

Over the last three decades, an extensive body of research has developed on how students approach their learning, the learning outcomes they achieve and the relations between students' learning and the teaching that they experience. It began with early studies by Marton and Säljö (1976a) which identified deep and surface approaches to learning and Ramsden (1988) who made connections between learning approaches and students' experiences of their course environments. A wide range of studies in different disciplines has provided evidence that students who take a deep approach to learning are more likely to achieve desirable learning outcomes than those who take a surface approach (For

reviews see Ramsden, 1992; Prosser and Trigwell, 1999; Marton, Hounsell and Entwistle, 1997).

Approaches to learning are not student characteristics or personality traits but are relations between students and their prior experiences and how they perceive their learning situations. Teachers can influence students' approaches by changing the learning contexts which students perceive (Prosser and Trigwell, 1999). Surface approaches to learning are encouraged in departments oriented towards knowledge transmission, and discouraged by departments oriented towards learning facilitation (Kember & Gow, 1994). More recent research has demonstrated connections between students' approaches to learning and their teachers' approaches to teaching at the class level (Trigwell, Prosser and Waterhouse, 1999). In classes where teachers reported taking information transmission/teacher focused approaches, their students were more likely to report taking surface approaches and less likely to report taking deep approaches. Where teachers reported a conceptual change/student focused approach, students were less likely to report taking surface approaches.

While the higher education and societal contexts create imperatives for changing university teaching, this research points to the directions of change which are likely to lead to improvements in teaching and learning. Good teaching can be seen in terms of using student-focused approaches to teaching, and doing this well (Trigwell, 2001). As teacher-focused approaches are common and can be reflected in entire transmission-oriented departments (Kember and Gow, 1994), changing teachers' approaches is important if we wish to achieve improvements in teaching and learning. The question of how this change can be achieved then becomes critical.

Research on teachers' approaches to teaching suggests that they relate to teachers' conceptions of teaching and learning and to their perceptions of their teaching situations (Trigwell and Prosser, 1996; Prosser and Trigwell, 1997a). When teachers come into particular teaching contexts, they will experience them in ways which are relations between

the features of the context and the teachers' prior conceptions and experiences of teaching and learning. Some aspects of their prior conceptions of teaching will be evoked and they will adopt the related approaches to teaching. Teachers' conceptions of teaching therefore appear to relate to the approaches that teachers *are capable of adopting* in relation to particular teaching situations, but not necessarily the approaches they do adopt.

Teachers who conceive of teaching in complex, student-focused ways may adopt less complex approaches in particular teaching situations (Trigwell and Prosser, 1996; Murray and Macdonald, 1997). Teachers whose experience is only of limited, teacher-focused conceptions of teaching are only able to approach teaching in similarly limited ways and will not perceive their teaching situations as affording different approaches (Trigwell and Prosser, 1997a; Prosser and Trigwell, 1999). They are simply unaware of the aspects of the teaching context which may evoke different perceptions of the situation and a more complex conception and approach. A good illustration of this is provided in Murray and Macdonald's (1997) paper in which they argue for a disjunction between lecturers' conceptions of teaching and their claimed educational practice. They noted a small group of eight lecturers (out of their sample of 39) who consistently expressed conceptions and approaches related to imparting information. Their roles, and the purposes of lectures, tutorials and assessment seen in relation to different contexts, were all connected with imparting. These lecturers could be described as having a limiting conception of teaching, with the reason for their consistency being that they are simply unaware of alternatives.

As teachers' conceptions of teaching appear to limit the approaches they are capable of adopting, attempts to change approaches therefore need to focus on teachers' conceptions. In order to enable many teachers to adopt student-focused approaches to teaching, it is likely to be necessary to change their conceptions of or ways of experiencing teaching from teacher-focused to student-focused (Trigwell and Prosser, 1996; Kember, 1997; Prosser and Trigwell, 1999; Samuelowicz, 1999; Hativa, 2002).

A personal context for the study

On a personal and practical level, this study also emerged from my curiosity about how university teachers in a one year course on teaching were learning and how I could help more of them to become aware of student focused ways of experiencing teaching and capable of enacting these in their teaching situations. In working with class groups and individuals through the year I noticed that some people seemed to experience sudden insights, others struggled to own new ideas and others seemed to reject them. For some teachers, the end of year course reflections would tell a story of learning and change - one of becoming more student-focused, experiencing teaching differently and feeling more confident about teaching. How did these teachers come to experience this change and why some and not others? As I was beginning to think about these questions and reflect on my own observations, I noticed that others were interested in similar issues. A conference paper by Elaine Martin and Paul Ramsden (1992) resonated with my experience and growing interest. The paper was titled “An expanding awareness: How lecturers change their understanding of teaching”. It confirmed my perception that some teachers were changing the way they experienced teaching in their classes to become more student focused, but raised more questions about what this meant, how it was happening and why it was happening with some teachers but not others.

What appeared to be happening for some of my teachers and Martin and Ramsden’s (1992) was not a simple switch from one way of experiencing teaching to another, but both a change in focus and an expanding awareness of variation in ways of experiencing. Part of my intention for the current study was to provide some empirical validation for my observations of teacher learning and change, part was to illuminate how it was happening and part was to seek some ways of working more effectively with those teachers who did not seem to learn or change to the same extent as their colleagues. While there were clear external and research rationales for this study, there was also the pragmatic rationale of seeking to improve my own understanding of academic development for university teachers and therefore my practice as an academic developer.

Current understandings of how university teachers change their way of experiencing: an overview

What does happen when teachers are in a context which might encourage or even require changes towards student-focused conceptions? Many teachers who are teaching in contexts where there are considerable pressures for change towards student-focused approaches seem to either resist or respond in minimal ways, feeling that their jobs are under threat (Rowntree, 1998). For some teachers, involvement in a teaching innovation project results in changes in their conceptions of teaching, while others use their previous conception in new contexts, often with less than effective results (Alexander et al, 1998).

Research on university teachers' development suggests that some teachers may become more student-focused as they gain experience (Kugel, 1993; Fox, 1983), a few may develop highly sophisticated student-focused conceptions (Entwistle and Walker, 2002) but many begin and remain teacher focused. Boice (1992) provides a none-too-encouraging description of the characteristics of many new faculty members, including “equating good teaching with good content” (p. 76-77). Typically this involves a focus on knowing the material, spending large amounts of time in preparing material for lectures and then delivering content in a facts and principles style. Plans for improving teaching usually revolve around improving lecture content.

Many of Boice's (1992) new faculty members seemed to avoid taking risks in teaching, to worry about failure and be dissatisfied with teaching but at the same time they lacked interest in changing or improving their teaching beyond improving content. Most new faculty tended to avoid asking for help or attending faculty development programs. With the exception of “quick-starters”, they seemed to want to cope on their own, perhaps through concerns about exposing perceived weaknesses to others. One conclusion which can be drawn from Boice's (1992) work is that new university teachers often did not learn to teach well or comfortably, let alone become student focused, simply through experience.

More worryingly, some new academics who begin with relatively student-focused approaches become more teacher-focused during their first year (Martin and Ramsden, 1994).

While there have been many approaches to helping teachers to learn about teaching, few of these have explicitly focused on helping teachers to change their ways of experiencing teaching and fewer still have taken a longitudinal approach to investigate whether and how changes occur over time. One empirical study (Ho, 1998) focused specifically on the design and impact of a conceptual change program for university teachers. About half of the 12 teachers who participated in all parts of the program and data collection did in fact change their conceptions. Two teachers made substantial changes to student-focused conceptions which resulted in changes in their students' approaches to learning. Others made smaller changes which did not initially impact on their students' learning and still others did not change conceptions at all despite voluntarily participating in a program designed to bring this about (Ho, Watkins and Kelly, 2001). Other documented approaches to conceptual change are accompanied by rationales for why they are likely to be successful and some immediate participant response, but require further evidence. Academic development workshops underpinned by phenomenographic approaches (Prosser and Trigwell, 1997b; Bowden, 1988) are claimed to have some success in raising participants' awareness of their own ways of experiencing teaching and the difference between teacher and student focused conceptions, but the longer-term success of these programs has not been systematically researched.

In summary, the premise on which this study is based is that it is important that many university teachers expand their awareness of ways of experiencing teaching and become capable of teaching in student-focused ways in their own teaching situations. While we know some ways of helping teachers to expand their awareness and change their ways of experiencing, we do not know enough about how this happens, about why some teachers appear to change while others don't, and about the features of teachers' experiences which might encourage or discourage learning and change.

The focuses of this study and outline of the thesis

This study focuses on how university teachers' ways of experiencing teaching changed over a two year period, and the experiences, personal orientations and situations which these teachers perceived related to changes in their teaching. The initial research questions were:

1. How do university teachers' ways of experiencing teaching change? In particular, how do teachers become capable of experiencing teaching in student-focused rather than teacher-focused ways?

As teachers' ways of experiencing teaching are relations between teachers and their teaching situations, change in ways of experiencing means change in teachers' *capability for experiencing teaching in particular ways* in their teaching situations.

2. Why do some teachers' ways of experiencing change from teacher focused to student focused, while others remain teacher focused?

This thesis takes one approach to providing some responses to these inter-related questions. Classical and new phenomenographies were used as research approaches for some components of the study and as points of departure for other components.

Phenomenography, in both old and new forms, is characterised by a focus on variation. In this study, university teachers were interviewed three times over the two-year period.

Addressing the first question involved focusing on the variation in teachers' ways of experiencing teaching and on whether individual teachers' ways of experiencing appeared to change between one interview and the next. It also involved focusing on the experiences, orientations and situations that teachers whose ways of experiencing teaching became student focused described as influences on the change, and how these related to teachers becoming aware of the critical aspects of student-focused ways of experiencing teaching.

Addressing the second question involved focusing on qualitative differences in the focuses that teachers took when changing their teaching and their intentions towards making a change - their ways of experiencing change in teaching. Addressing the second question was intertwined with and further illuminated an understanding of the first.

Each of the chapters of this thesis seeks to constitute variation in a different aspect of the overall study, as a way of highlighting the complexities and part-whole relations within the overall theme of change in university teaching.

Chapter 2 examines the literature related to ways of experiencing university teaching, including research on teachers' conceptions and beliefs. Overall, research on teachers' conceptions of and orientations towards teaching point to a range of variation, from teacher-focused to student focused. However, different studies have focused on different aspects of teaching from different theoretical perspectives. There are no longitudinal studies which focus on relational ways of experiencing teaching and how these change over time. This chapter outlines a framework for analysing ways of experiencing teaching based on Marton and Booth's (1997) framework for describing the experience of learning. I argue that this framework can be used for analysing individual teachers' ways of experiencing teaching and how these change over time. Different ways of experiencing teaching can be analysed in terms of differences in the internally related *how* aspect, the act and indirect object of teaching, and *what* aspect, the direct object of teaching. Differences in the *how* aspect are differences in the processes and intentions of teaching, from teacher transmission with the aim that students will "receive" to creating contexts for student engagement with the aim that students will change their conceptions. Differences in the *what* aspect largely focus on differences in how knowledge or the content is perceived in relation to the students, from knowledge being fixed and residing in the teacher's knowledge or textbooks and being given to students, to being personal or relational and developed, constructed or constituted by students in the process of learning. The chapter concludes by identifying the need for clearer identification of the critical aspects of student-focused ways of experiencing teaching.

Chapter 3 focuses on literature which relates to how university teachers might come to change their ways of experiencing teaching. The chapter takes a selective approach to the voluminous and multi-disciplinary literatures on learning and change, focusing on themes which appear most relevant for examining change in ways of experiencing university teaching. It begins with an overview of the theory of variation and learning, using this to identify the conditions necessary for teachers to become aware of a new way of experiencing teaching. These conditions are then used to analyse a selection of literature related to four perspectives on university teacher learning and development: learning as acquiring and applying teaching strategies; teacher development and learning from experience; conceptual change approaches; critical reflection and action research. Analysis of these literatures suggests possible processes which might encourage but by no means ensure change in ways of experiencing teaching. The last section of the chapter proposes a relational analytic framework which focuses on ways of experiencing *change in teaching*. This framework draws on Marton's ideas on variation (Marton and Booth, 1997; Marton and Trigwell, 2000; Marton and Tsui, 2003) and the relevance structure of the learning situation (Marton and Booth, 1997).

Chapter 4 focuses on this study's approaches to researching variation and change in university teachers' ways of experiencing teaching and the theoretical and methodological issues which inform these approaches. It begins with an overview of classical (Marton, 1981; 1994) and "new" phenomenography (Marton and Pang, 1999; Pang, 2002), which were used for two components of this study, describing variation in phenomenographic approaches and addressing some common critiques. It then describes the methodological approaches that I took in this study, from selection of teachers through interviewing, transcribing, analysing and constituting the research outcomes. Five inter-related focuses for the analysis and constitution of the research outcomes are described: teachers' collective ways of experiencing teaching; collective ways of experiencing change in teaching and individual awareness of related variation; themes related to change in teachers' ways of experiencing; changes in individual teachers' ways of experiencing and vignettes of

individual teachers. The vignettes are used to illuminate the patterns of connection between the different study outcomes from the study, and provide richer descriptions of changes in some individual teachers' ways of experiencing.

Chapter 5 is the first of four chapters which describe and interpret the findings of this study. It focuses on variation in university teachers' descriptions of their ways of experiencing teaching. It begins by describing and delimiting six categories of description for ways of experiencing teaching, as constituted in relation to the teachers' interview transcripts. The categories are described in terms of their patterns of critical aspects. Variation and internal relations between teacher-focused and student-focused ways of experiencing are then described in relation to the structure of the phenomenographic outcome space, the direct empirical evidence from teachers' descriptions and the critical aspects of each way of experiencing teaching. These critical aspects are seen as relating to teachers' awareness of particular dimensions of variation.

Chapter 6 focuses on changes in teachers' ways of experiencing teaching and how change comes about. It identifies the most complex way of experiencing described by each teacher in relation to their teaching situation in each of their interviews, to create an overview of the extent and direction of change in ways of experiencing. Some teachers became aware of the critical aspects of student-focused ways of experiencing teaching. They experienced an expanding awareness (Martin and Ramsden, 1993) and a shift in focus corresponding to a change from teacher-focused to student-focused ways of experiencing teaching. For others there was little evidence of change. Two vignettes of teachers whose ways of experiencing teaching in their situations became student focused are used to illustrate how teachers become aware of variation related to the critical aspect of student-focused ways of experiencing teaching. Teachers' collective descriptions of influences and experiences related to change are then used to identify some common themes in the critical experiences and teacher orientations towards these experiences which related to some teachers "becoming" student focused.

Chapter 7 further illuminates an understanding of how change comes about and addresses the question of why some teachers change and others didn't. It focuses on variation in teachers' ways of experiencing change in teaching. It takes two intertwined perspectives, corresponding to the two faces of variation (Marton and Pang, 1999; Pang, 2002). The first perspective is that of classical phenomenography, illustrating variation in teachers' described ways of experiencing change in teaching across the whole set of transcripts. The second, inter-related perspective looks at the aspects on which variation is brought about in individual teachers' descriptions of change in their teaching and the relevance structures that bring these aspects to the foreground of teachers' awareness. Teachers' uses of contrastive rhetorics to compare past and present experiences of teaching indicate contemporaneous discernment of particular aspects of variation. Five broad categories of description are identified, delimited by the aspects of teaching which are changed and the dimensions on which variation is brought about, how the change occurred and the teachers' intentions related to the change. The teachers' intentions for change are related to the relevance structures that they experience in situations of learning about and changing teaching.

Chapter 8 focuses on the connections between the outcomes outlined in the previous three chapters, relating the changes that I interpreted in teachers' ways of experiencing teaching to the teachers' ways of experiencing change in their teaching and the extent to which they described the critical experiences and orientations related to becoming aware of student-focused ways of experiencing. Four patterns of connection are described, two related to teachers whose ways of experiencing teaching remained teacher-focused and two relating to teachers whose ways of experiencing became or continued to be student-focused. These patterns illustrate that teachers whose ways of experiencing teaching became or continued to be student-focused differ from those who remained teacher focused in their intentions for changing their teaching and in their ways of experiencing learning. These differences relate to these groups of teachers experiencing different relevance structures in situations for learning about teaching such that different aspects of teaching are brought to the foreground of awareness and variation is brought about on different dimensions. As a

consequence, these groups of teachers experience different learning outcomes relating to change in different aspects of teaching.

Chapter 9 draws out and expands on the findings from the previous four chapters. It then sets them within the context of the literatures on variation and learning and university teachers' learning and development, to highlight the contributions that this thesis makes to our understandings. It also suggests some ways forward for academic developers in expanding teachers' awareness of different ways of experiencing teaching, by creating a space of variation (Runesson, 1999) in which variation is brought about on ways of experiencing teaching and their relation to student learning while other aspects of teaching and the context are held invariant.

Chapter 2

University teachers' ways of experiencing teaching: perspectives from the literature

What is it that changes when university teachers' ways of experiencing change from teacher focused to student focused? Research on university teachers' conceptions of and orientations towards teaching consistently points to a range of variation, from teacher focused or teaching centred to student focused or learning centred, but there are important differences between studies. This chapter begins with an analysis of previous literature related to university teachers' conceptions of teaching and orientations towards teaching. This analysis focuses on the commonalities and differences in the research reported in this literature, and the implications of these differences for ways of discerning and interpreting change. I then describe a framework for analysing *ways of experiencing* teaching, based on the structure of awareness and the nature of ways of experiencing learning (Marton and Booth, 1997). I argue that this framework offers a way of synthesising and clarifying the existing research on teachers' conceptions, orientations and approaches, in terms of the structure of teachers' awareness. Using this framework, different ways of experiencing teaching can be distinguished in terms of differences in the related patterns of aspects in teachers' focal awareness. This enables changes between teacher-focused and student-focused ways of experiencing teaching to be described in terms of teachers becoming aware of the critical aspects of student-focused ways of experiencing.

Research related to teachers' ways of experiencing teaching

Research on university teachers' conceptions of, orientations towards or beliefs about teaching had its origins in two main fields of research. The first was schoolteachers' thinking about teaching (Clark and Peterson, 1986; Pajares, 1992). The second is the research on university students' approaches to learning (Marton and Säljö, 1976a, 1976b) and conceptions of learning (Säljö, 1979, Marton, Dall'Alba and Beaty, 1993), which sought to understand learning from the perspectives of the learners. Both of these fields represented a shift away from behavioural research, but there are substantial theoretical and methodological differences between them.

Research undertaken within the first field is typically underpinned by cognitive or motivational psychology. Teachers' thinking is perceived to affect their actions and their students' achievement. Aspects of thinking that have been focused on include planning, decision-making, beliefs and implicit theories of teaching (Clark and Peterson, 1986; Entwistle, Skinner, Entwistle and Orr, 2000). These are considered to be relatively stable teacher characteristics, or characteristics which may develop or change slowly over time in novice teachers as they gain experience.

Research undertaken within the second field is underpinned by a non-dualist focus on experience, which considers ways of experiencing teaching to be relations between teachers and the phenomenon of teaching as experienced in particular situations (Prosser and Trigwell, 1999). These studies focus on variation in conceptions of teaching and related phenomena across collective groups of teachers, and typically use phenomenographic research approaches. Similar to the teacher thinking research, this research strand has also explored relations between conceptions, practices and learning. Teachers' conceptions of teaching are seen as related to their approaches to teaching and their students' approaches to learning (Prosser and Trigwell, 1999; Prosser, Ramsden, Trigwell and Martin, 2003).

Studies related to university teachers' ways of experiencing teaching have also taken a range of focuses. Different studies have described their objects of research in terms of

personal theories of teaching (Fox, 1983), conceptions of teaching (Larsson, 1983; Dall'Alba 1991; Martin and Balla, 1991; Samuelowicz and Bain, 1992; Prosser, Trigwell and Taylor, 1994), orientations towards and beliefs about teaching (Samuelowicz & Bain, 2001), broad teaching orientations (Gow and Kember, 1993; Kember and Gow, 1994), and approaches to teaching (Trigwell, Prosser and Taylor, 1994; Murray and Macdonald, 1997; Kember and Kwan, 2002; Martin et al, 2000). Related studies have focused on the objects of study that teachers constitute in teaching (Martin et al, 2000), conceptions of student learning (Prosser et al, 1994; Bruce and Gerber, 1995) perspectives on teaching in adult education (Pratt, 1998), and ways of experiencing growing and developing as a university teacher (Åkerlind, 2003a).

There are some strong commonalities across the findings of these studies, but also differences related to the different focuses taken by researchers and the different theoretical underpinnings of the studies. While the commonalities point to some important features which may distinguish teacher-focused from student-focused conceptions and approaches, the differences indicate a need for greater clarity about what it is that changes and what it means to change when teachers change their ways of experiencing teaching. In the next sections, I will first describe the main findings of these studies, before summarising some of the areas that I see as in need of clarification.

An overview of conceptions of teaching, orientations towards teaching and related studies

Five empirical, interview-based studies have focused on teachers' conceptions of or orientations towards teaching and have outcomes in the form of an internally related set of ordered or hierarchical categories. As these studies form a particularly important part of the background to my study, I will consider them in greater detail while relating them to some of the other studies of conceptions of teaching and related phenomena. Table 2.1 outlines all five sets of findings in a way that shows the relative ordering of the conceptions within them. All five studies identified similar ranges of conceptions or orientations, but there were

differences in their methodologies, in the aspects of teaching which delimit some of the categories and in the way that relations between categories are constituted or constructed.

Three of the studies were phenomenographic, focusing on conceptions of teaching. These studies constituted hierarchical (or semi-hierarchical) sets of categories of description which related to different conceptions (Dall'Alba 1991; Martin and Balla, 1991; Prosser, Trigwell & Taylor, 1994). Dall'Alba (1991) interviewed 20 teachers from four disciplines, and described an ordered set of seven qualitatively different categories. Ordering was based on "less to more complete understandings of teaching" (p. 296) so can be seen in terms of hierarchically expanding levels of completeness. Martin and Balla (1991) interviewed 13 teachers taking a course in higher education. They described seven hierarchically related categories clustered into three major levels: presenting information, encouraging active learning and relating teaching to learning. There are shifts in the teachers' focuses within these levels. Prosser et al (1994) interviewed 24 teachers of first year physical sciences, and their analysis focused on the structural and referential (meaning) components of the conceptions and the relations between them. They described six hierarchically related categories, with the least complex four forming two pairs depending whether knowledge is seen as coming from the teacher or the syllabus. In all three studies, the categories

Table 2.1 Summary of key studies on conceptions of and orientations towards teaching

	Dall'Alba, 1991	Martin and Balla, 1991	Samuelowicz and Bain, 1992	Prosser, Trigwell and Taylor, 1994	Samuelowicz and Bain, 2001
Most complex Student focused	G Bringing about conceptual change	3 Relating teaching to learning	1 Supporting student learning (postgraduate) 2 An activity aimed at changing students' conceptions or understanding of the world	F Helping students change conceptions E Helping students develop conceptions	Encouraging knowledge creation Negotiating understanding
	F Exploring ways of understanding from particular perspectives E Developing the capacity to be expert	2 Encouraging active learning: experiential focus 2 Encouraging active learning: discussion focus	3 Facilitating understanding		Preventing misunderstandings Helping students develop expertise
Teacher focused	D Developing concepts/principles and their inter-relations C Illustrating the application of theory to practice	2 Encouraging active learning: motivational focus 1 Presenting information: content organisation focus	4 Transmission of knowledge and attitudes to knowledge within an academic discipline	Helping students acquire: D: teachers' knowledge C: concepts of the syllabus	Providing and facilitating understanding Transmitting structured knowledge

Least complex	B Transmitting information A Imparting information	1 Presenting information: delivery focus	5 Imparting information	Transmitting: B: teachers' knowledge A: concepts of the syllabus	Imparting information
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form a range which I will describe as teacher focused to student focused, based on the terminology introduced by Prosser et al (1994).

The two other studies in the group focused on teachers' characteristic orientations towards teaching, describing the relations between these in terms of their constituent belief dimensions (Samuelowicz and Bain, 1992¹; 2001). The earlier study, from interviews with 13 teachers of science and social science, identified five "conceptions" representing different profiles on five bipolar belief dimensions: the learning outcome as knowing more or differently; the nature of knowledge as curriculum bound or interpreting reality; students conceptions taken into account or not; teaching as one way transmission or two way co-operation; content as teacher or student controlled. The later study, from interviews with 39 teachers across a wider range of disciplines, identified seven conceptions and nine belief dimensions. Dimensions not included in the previous study included the purpose of teacher-student interaction as well as its direction, the responsibility for organising and transforming knowledge, whether students' professional development is stressed or not and whether interest and motivation are provided by the teacher or arise through student engagement. Ordering of both sets of categories was from less advanced to more advanced, and I will describe these as teaching centred to learning centred, following Samuelowicz and Bain (2001).

Teacher-focused/teacher-centred categories

In the most limited, or least advanced, categories in each study, teaching was described as imparting, presenting or transmitting information. Teachers focus on their delivery skills (Dall'Alba, 1991; Martin and Balla, 1991) and/or on the pieces of information to be delivered (Prosser et al, 1994). Communication is one-way from teachers to students and information has a taken-for-granted quality, existing in the syllabus, textbooks, the teachers' knowledge and/or the lecture notes. Desired learning outcomes are either not considered,

¹ This study described its object of study as "conceptions of teaching" but it is theoretically and methodologically more aligned with the later study of beliefs and orientations than with the phenomenographic studies.

or are seen in terms of atomistic recall (Samuelowicz and Bain, 2001). Fox's (1983) transfer theory of teaching, Pratt's (1998) transmission perspective and Kember and Kwan's (2002) conception of teaching as passing information are described in very similar ways. Kember (1997, p. 264) labels this group as "imparting information".

The second group of categories is distinguished from the previous one by two features common to all studies. Teachers focus on organising the content and on their students acquiring it. Content still comes from the teacher or syllabus, but the focus is on concepts and their inter-relations rather than fragments. Teachers perceive that they can assist acquisition through structuring the content to make it easier for students to "understand". Kember (1997, p. 264) labels this group as "transmitting structured knowledge".

Several studies have two categories that fit into this second group, and they delimit these in different ways. In the studies by Samuelowicz and Bain (2001) and Dall'Alba (1991), the more complex of the two categories has an additional focus on teachers illustrating the applications of content or the links between theory and practice. Samuelowicz and Bain (2001) also distinguish different focuses for teacher-student communication. It is still primarily one-way from teacher to student, but may include two-way interaction to maintain attention or to check and clarify students' understanding. In Prosser et al's (1994) study the two categories are delimited on the source of the knowledge to be acquired: the syllabus (C) or the teacher (D). I have included Martin and Balla's (1991) "motivational focus" category with this group as it is consistent with the teaching-centred pole of Samuelowicz and Bain's (2001) interest and motivation dimension, and with the illustrative quote for Prosser et al's (1994) category D which includes a focus on the teacher getting the students' interest.

According to Kember (1997) the two broad groups of categories described above relate to an overall teacher-centred, content oriented orientation, consistent with the knowledge transmission orientation from his studies of teachers' and departments' orientations towards teaching (Gow and Kember, 1993; Kember and Gow, 1994). While different studies

describe these core features of these groups in very similar ways, there are also differences in some aspects.

Student-focused categories

The student-focused groups of categories are distinguished from the teacher-focused categories by a number of features that are consistent across studies. Teachers perceive a need to identify and relate to students' existing understandings in order to help students to develop or change their understandings. Teaching is an interactive process where meaning is negotiated. Knowledge is seen as being developed, constructed, transformed or personalised by students, rather than acquired from external sources. Students are therefore expected to actively engage in learning in order to develop or change their knowledge of the subject matter and/or the world. Fox's (1983) travelling and growing theories relate to these groups, as students are seen as contributing significantly to what they are learning. Pratt's (1998) nurturing and developmental perspectives are related to these groups through their focus on the students' personal development and learning, but have less focus on students' conceptual development than do the studies from higher education. Kember (1997) describes all of these as student-centred/learning-oriented conceptions, consistent with his learning facilitation orientation (Gow and Kember, 1993; Kember and Gow, 1994).

The student-focused categories also divide into different groupings that vary across different studies. One grouping is focused on helping students to develop their conceptions (Prosser et al, 1994) or preventing misconceptions (Samuelowicz and Bain, 2001). A second, seen as more complex than the first, is focused on helping students to change their conceptions or understandings from limited to more complete or from naïve to disciplinary or professional (Prosser et al, 1994; Samuelowicz and Bain, 1992; 2001; Dall'Alba, 1991). A third focuses on supporting students' learning (Samuelowicz and Bain, 1992), later renamed as encouraging knowledge creation (Samuelowicz and Bain, 1992), and relates to postgraduate rather than undergraduate teaching contexts. This grouping could be seen as

inclusive of the other two, although Samuelowicz and Bain (1992; 2001) prefer to describe it as more advanced.

Considering Fox's growing theory (1983) and Pratt's nurturing perspective (1998) there also appears to be a fourth grouping, focusing on the personal development of the student. The relationship of this grouping to the other three is unclear, although it does include conceptual and intellectual development.

Categories in the middle – transitional, provisional or unclear?

Kember's (1997) meta-analysis of the early studies of conceptions of and approaches to teaching suggested that some conceptions were neither teacher-focused nor student-focused but transitional between the two. These conceptions were typically characterised as focused on two-way interaction between teachers and students (Kember, 1997).

Conceptions in the middle of the sets described in some studies can also be seen to include focuses on student activity or practice, and/or on forms of "understanding" or capability that students will acquire or develop.

Not all studies include categories of this kind, and there are different ways of delimiting them. Dall'Alba (1991) focuses on differences in the understandings that the teacher seeks to develop in students: understanding and becoming able (E) or exploring understanding from different perspectives (F). Martin and Balla's (1991) level 2 categories focus on differences in how teaching helps learning to happen. Teaching needs to motivate students (clearly teacher focused), or involve them in discussion, or get them to relate content to their own experience or to workplace practice. Samuelowicz and Bain (1992) focused on both the presence of two-way teacher-student communication and the belief in knowledge as interpreting reality to distinguish their "facilitating learning" category from less advanced categories. Their later revision (2001) split this intermediate category into two categories: one teaching centred and one learning centred. Fox's (1983) building theory was described as intermediate, but can also be seen as having two subsets, depending on whether the teacher or student is seen to be doing the building and affecting what is built.

Several studies include categories focused on developing expertise (Dall'Alba, 1991) or engaging students in active learning so that they relate theory to practice (Martin and Balla, 1991). Fox's (1983) shaping theory and Pratt's (1998) apprenticeship perspective are similar. Teachers demonstrate practice and provide practice opportunities so that students can be shaped into a desired disciplinary or professional mould. The descriptions of these categories seem more teacher focused than student focused. For example, Fox (1983) describes his theory as a simple one, emphasising that students have little say in the way that they are shaped. Martin and Balla (1991) note that teachers do not address how students will relate theory to practice, simply assuming it will happen if students are given the right theory and enough practice opportunities. On the other hand, Samuelowicz and Bain's (2001) category of "helping students develop expertise" is described as learning centred rather than teacher centred or intermediate. In their category, teaching helps students to construct their own meanings and change their ways of thinking whereas in the other vocational/expertise categories this is not the case.

The relations between these middle categories and teachers' approaches to teaching are unclear, although the approach described as teacher-student interaction with the intention that students acquire the concepts of the discipline (Trigwell, Prosser and Taylor, 1994) appears consistent with some of the features of these categories.

Issues in identifying and interpreting change in ways of experiencing

The research described above makes it clear that teachers' conceptions and orientations consist of inter-related patterns of aspects of teaching or beliefs about teaching. These patterns typically include aspects or beliefs concerning the nature of knowledge, the meaning of student learning, how teaching relates to learning and so on. In this section I focus on the adequacy of these previous studies for identifying and interpreting change in teachers' ways of experiencing teaching.

Identifying change over time in individual teachers' ways of experiencing requires a longitudinal approach. While some studies presume particular stages of development (for example Kugel, 1993) longitudinal studies of university teacher development and change are rare. All of the original studies of university teachers' conceptions of and orientations towards teaching focused on differences within a group of teachers at a particular point in time. Further evidence was required to determine whether the categories described in these studies could be used to identify change longitudinally.

One longitudinal study has been carried out by Ho (1998, 2000; Ho et al, 2001). She used Samuelowicz and Bain's (1992) categories to study conceptual change in a group of teachers participating in a formal program specifically designed to encourage conceptual change. Use of these categories enabled identification of large changes in two teachers' conceptions and moderate changes in a further four teachers' conceptions, from a group of nine teachers who began with relatively teacher-centred conceptions. It is uncertain whether or how Ho et al's (2001) interpretations would be modified if Samuelowicz and Bain's (2001) later refinements to their orientations were taken into account, or if Ho had constituted categories directly in relation to the transcripts from her teachers. None of the phenomenographic studies of teachers' conceptions have so far been followed up longitudinally, either by their original authors or by others.

Being able to identify changes in teachers' conceptions or orientations longitudinally from previous study findings means considering the extent to which a clear set of qualitatively different categories and their distinguishing features could be described from these studies. It also means considering the ontological meaning of change in conceptions or orientations and the implications for change in teachers' practices. As different studies are underpinned by quite different ontological assumptions, change in conceptions has a different meaning from change in orientations or change in personal theories or perspectives.

Are categories sufficiently well described and distinctive?

While I am not suggesting that there should be complete agreement between different studies of teachers' conceptions of or orientations towards teaching, the outcomes should be related as all studies relate to the same phenomenon. Different studies could illuminate different parts of the phenomenon, or the same parts from different perspectives. It is therefore reasonable to examine whether there are sufficient commonalities in the different studies of teachers conceptions of or orientations towards university teaching to enable the features of a common set of categories to be described.

There is a high level of agreement on the main aspects or beliefs which characterise the broadly teacher-focused/teaching-centred and broadly student-focused/learning-centred groups of conceptions or orientations. Change between the very limited and the much more complete or advanced conceptions or orientations could reasonably be described in terms of a change from seeing teaching as one-way transmission of fragments of taken-for-granted knowledge to seeing teaching as a two-way interactive process in which teaching relates to students' existing understandings in order to help students to change their understandings and in which knowledge is seen as personally developed.

In the middle of the range, describing common categories and differences between them is much more problematic. In addition to the different focuses of different studies, it is unclear whether some categories represent transitional positions that might create teacher dissonance and the potential for change (Kember, 1997). While the earlier studies suggest the possibility of transitional categories, later studies suggest a distinct separation between those that are teacher focused or teaching centred and those that are student focused or learning centred (Prosser et al, 1994; Samuelowicz and Bain, 2001; Kember and Kwan, 2002).

Prosser et al's (1994) conceptions of teaching show a clear separation between teacher-focused and student-focused conceptions, based on whether teachers focus on their own or syllabus knowledge, or on their students' understandings and worldviews. Samuelowicz

and Bain (2001) make the separation based on differences in the purpose of teacher-student interaction as well as the teacher's beliefs about knowledge and how students come to know. Teachers with learning-centred beliefs see interaction as a means of negotiating meaning, in which students are actively engaged in developing and changing their understanding. Those with teaching-centred beliefs see interaction as a way of maintaining attention or checking for correct understanding of information which has been structured and provided by the teacher.

One particular issue in seeking commonality and resolving the issue of transitional categories is that different studies have delimited their objects of research in different ways. As an example, teacher-student interaction or student activity are not used to distinguish between different conceptions of teaching in Prosser et al's (1994) study. Instead, the presence or absence of interaction is seen as part of the strategy aspect of teachers' approaches to teaching (Trigwell, Prosser and Taylor, 1994).

Orientations towards teaching are more broadly delimited than conceptions of teaching. Orientations (eg Samuelowicz and Bain, 2001) include belief dimensions which relate to aspects described in relation to phenomenographic studies of conceptions of teaching (eg Prosser et al, 1994), approaches to teaching (eg Trigwell, Prosser and Taylor, 1994; Martin et al, 2000) and the objects of study that teachers constitute for their students (Martin et al, 2000). However, while the phenomenographic studies have constituted conceptions, approaches and objects of study as separate phenomena, they are seen as internally related.

Approaches and conceptions are closely related when seen in relation to the same situation (Trigwell and Prosser, 1996). A similar close relation has been found between approaches and constituted objects of study (Martin et al, 2000), who describe these as the internally related *how* (approaches) and *what* (objects) of the act of teaching. The aspects that this study identifies can be seen as closely related to, but more precisely defined than, those identified in earlier studies of conceptions of teaching. In teacher-focused approaches,

presenting, covering and clarifying strategies relate to the intention of information transmission. These approaches are related to objects of study in which knowledge is given and the teacher's focus may be on topics in isolation or the subject as a whole. In student-focused approaches, strategies for engaging students with disciplinary knowledge or professional practice are related to conceptual development intentions, and strategies that challenge students' understandings and practices are related to conceptual change intentions. These approaches are related to objects of study in which knowledge is seen as constructed or problematic, and students develop understandings of the discipline or profession or develop lifelong learning capabilities. While Martin et al (2000) constitute approaches and objects of study as separate phenomena then demonstrate that they are internally related; the two phenomena could also be seen as two facets of teachers' overall ways of experiencing teaching.

The studies by Samuelowicz and Bain (2001) and Martin et al (2000) suggest that either the orientations and beliefs perspective or the phenomenographic perspective on experience offers the potential for identifying the critical features of qualitatively different orientations/conceptions of teaching in ways which are precise enough for change to be identified. However, in my view neither of these studies is adequate for the purpose of describing and identifying changes between teachers' ways of experiencing teaching. Martin et al's (2000) study potentially identified the structural aspects of different ways of experiencing teaching, but not the intertwined meaning which would be constituted by them being seen as parts of a single phenomenon rather than as two separate phenomena. Further research is required to confirm the ways in which these aspects can indeed be seen as aspects of different ways of experiencing teaching, and to constitute their intertwined meanings.

While the categories from Samuelowicz and Bain's earlier (1992) study were used by Ho (1998; Ho et al, 2001) to identify changes in teachers' conceptions, my view is that the ontological perspective underpinning this study is less powerful than the relational, phenomenographic perspective in describing change in teachers' ways of experiencing

teaching in their teaching situations. My reasons for this are described in the following sections.

The meaning of change between categories: expanding patterns of awareness or different sets of beliefs?

Change in conceptions has a different meaning from change in orientations. This difference is inherent in the different theoretical positions taken by phenomenographic studies of conceptions (for example Prosser et al, 1994) and studies of characteristic orientations (Samuelowicz and Bain, 2001), and is reflected in the different principles by which categories are related to each other.

Categories related to teachers' characteristic orientations are ordered on a set of belief dimensions. Change in a teacher's orientation means a change in the teacher's pattern of beliefs. As belief dimensions are seen as bi-polar or multi-positional, change in a belief means moving from one pole or position to another. The previous belief is replaced by the new one in the teacher's belief system. While the ordering principle of the set of categories is described by Samuelowicz and Bain (1992) as from less to more advanced, within this perspective there is no internal reason why one pole of a belief dimension should be seen as more advanced than the other pole. Change in one direction could be seen as having the same value as change in the other. Arguments for why the learning-oriented categories are more advanced need to be made with reference to sources outside the set of categories.

Phenomenographic categories related to teachers' conceptions are hierarchically internally related. More complete or complex categories include the features of the less complex categories. Change from a more limited, teacher-focused conception to a more complete, student-focused conception relates to the teacher becoming aware of progressively more aspects of teaching. Rather than the replacement of one conception with another, the change represents an expanding awareness (Martin and Ramsden, 1993; Entwistle and Walker, 2002). Awareness of the new conception includes awareness of the features of

the previous one. From this perspective, change from teacher-focused to student-focused conceptions could be seen as inherently more desirable than the other way around.

The hierarchical relations between phenomenographic categories have been critiqued by Kember (1997) and Samuelowicz and Bain (1992), on the grounds that teachers' descriptions of student-focused conceptions do not include the elements of teacher-focused conceptions. This critique could be seen as valid from a beliefs perspective, but not from the perspective of inclusive awareness. Taking one of Samuelowicz and Bain's (1992) dimensions as an example, believing that students need to construct their own knowledge of the world excludes believing that students acquire subject knowledge from the teacher. However, from an awareness perspective a teacher who is aware that students need to construct their own knowledge is also likely to sometimes provide information to assist them. The teacher is also likely to be aware that some of her or his colleagues or students see teaching as giving students subject knowledge, but these colleagues are unlikely to be aware of this variation. As a consequence of the differences between exclusive beliefs and inclusive awareness, the two perspectives also deal quite differently with the relations between conceptions/orientations and practices.

Relations between conceptions and approaches, or beliefs and practices, and the effect of teaching contexts

Relations between teachers' approaches and practices and their teaching-related conceptions or beliefs have been explored from a range of perspectives. Taking a phenomenographic perspective, Trigwell and his colleagues found consistency between physical science teachers' intentions and strategies (Trigwell, Prosser and Taylor, 1994) and conceptions and approaches (Trigwell and Prosser, 1996) when described in relation to the same teaching situations. Teachers' observed practices have been found to be consistent with their described approaches and with the objects of study they intend to constitute for their students (Martin et al, 2000). From the characteristic beliefs perspective, academic historians' and engineers' described practices have been found to be consistent with their beliefs about the nature of their disciplines (Quinlan, 1999; 2002).

Samuelowicz (1999) argues that a strength of the beliefs and orientations research is that it identifies teachers' characteristic and stable belief patterns which relate congruently to practice. However this perceived strength could be seen as a weakness in explaining situations where teachers' "characteristic" orientations vary contextually, or where teachers' practices are not in accordance with their beliefs. Samuelowicz and Bain's (1992) own study had several examples of the former. Of their sample of 13 teachers, two expressed different conceptions in relation to undergraduate and postgraduate teaching. For one teacher, the different conceptions represented contrasting beliefs on all five of the belief dimensions described in the study. Four other teachers stressed that their responses related to a particular subject, and contrasted this with their teaching in other subjects.

Examples of lack of consistency between conceptions/beliefs and practices are not uncommon. In a phenomenographic study of adult educators' conceptions and practices (Larsson, 1983) teachers whose conceptions related to transmission of information had consistent practices, maintaining strong control over communication in the classroom. However, ten of the sixteen whose conceptions were more complex and student-focused also maintained strong control. These teachers perceived that their students expected teaching to be transmissive, so taught in a way which was consistent with this perceptions rather than with their own, more complex conceptions. The relation between these teachers' practices and their perceptions of the context are consistent with earlier studies of students' approaches to learning (Marton and Säljö, 1976b).

From a relational, phenomenographic perspective, there is no difficulty in explaining contextual variation in teachers' conceptions or perceived inconsistencies between conceptions and approaches. Teachers' approaches to teaching are seen as relations between teachers' prior conceptions and experiences of teaching and their perceptions of their teaching situations (Trigwell and Prosser, 1997; Prosser and Trigwell, 1999). If a teacher has prior experience of a range of conceptions, teaching situations which are perceived differently may evoke different conceptions and approaches. From this

perspective, Murray and Macdonald's (1997) finding of disjunctions between conceptions and approaches can be readily interpreted as resulting from teachers responding to different questions in relation to different teaching contexts.

From the beliefs perspective, changes in orientations are seen as stable changes in individual teachers' characteristics, which should relate to changes in practice. From a phenomenographic perspective, the relations between change in conceptions and change in practice are more complex. Change in a teacher's most complete conception can be seen as an expansion (or less likely a diminution) in the teacher's awareness of aspects of teaching which yields a *capability* for acting in a different way. Whether the teacher does act in a new way depends on whether she or he perceives this as afforded by the teaching situation. There are therefore two potential ways in which teachers' approaches can change: through changes in the most complete way in which they experience or conceive of teaching and learning or, if they are already capable of conceiving of teaching in more complete ways, through changes in the ways in which they experience their teaching situations.

In the above three sections, I have argued that existing phenomenographic studies of conceptions of teaching have not yet constituted an internally related set of categories which are sufficiently inclusive and precisely described to enable change between them to be identified longitudinally. Such a set of categories has potentially been identified from an orientations and beliefs perspective, but this perspective is less powerful than the phenomenographic perspective in describing the ontological meaning of change and accounting for both consistent and inconsistent relations between teachers' conceptions and practices. I therefore see a need for a non-dualist, phenomenographic study which describes the critical features of teachers' conceptions in a way that is more precise and inclusive than previous studies, so that change in conceptions can be identified longitudinally. In the following section, I will describe a framework that I see as useful for carrying out this study.

Awareness and the experience of teaching

The theory of variation, learning and awareness (Marton and Booth, 1997), allows the development of an analytic framework for describing the nature of a way of experiencing teaching and differences between different ways of experiencing teaching in terms of the structure of teachers' awareness.

Awareness at any point in time has a figure-ground structure. Some things are in focal awareness and figural, others make up the ground and are tacit. Drawing on Gurwitsch's (1964) description of the structure of consciousness, Marton and Booth (1997) and Booth (1997) refer to three aspects of this figure-ground structure. The object of focal awareness at any point in time makes up the theme, the aspects of the experienced world that surround and are related to the theme make up the thematic field, and the aspects that are unrelated make up the margin. According to this framework of awareness, we are aware of everything all of the time, but at any single point in time only some aspects are in focal awareness and others recede to the margins. Awareness is dynamic, such that the object of focal awareness is constantly changing.

Awareness is a relation between the experiencer and the experienced world. It is not a separate feature of the experiencer, or of the world. From this non-dualist perspective, a person's awareness at any point in time relates to both their prior experiences and the features of the phenomenon or situation that they are experiencing. Different people with different prior experiences will experience "the same" phenomenon or situation in different ways. Their awareness will be focused on different features. However, because both human consciousness and the features of any particular phenomenon or situation are limited, the same phenomenon or situation will be experienced in a limited rather than infinite range of qualitatively different ways (Marton and Booth, 1997).

Consider the awareness of teaching of a teacher in a lecture class, and let's call her Jane. Jane's focal awareness of teaching in her class may at one point be directed to whether the data projector is working, at another to where she is up to in the structure of the lecture, at another to wondering what the pair of students at the back are chattering about, and at another to how students are responding to questions and what this suggests about the nature of their understandings of the subject matter. In being aware of the last point, Jane may be simultaneously aware of disciplinary understandings of the subject matter and of how similar or different these are to the understandings that the students are expressing. She may also be simultaneously and focally aware of judging contextually whether to respond to important differences in students' understandings by engaging students in a buzz group, or by explaining the subject matter in a way which seeks to focus their awareness on these differences. Jane's overall awareness at any point may include aspects of other phenomena such as the lighting in the room or the condition of the chairs but these may be in the background.

Jane could be described as experiencing teaching in a complex, student-focused way. While her awareness is dynamically changing, she has the capability of being simultaneously and focally aware of her students' understandings, her own understandings and what she does as a teacher to bring about changes in students' understandings (as well as of a range of other aspects of teaching). Her colleague, Jean, who experiences teaching in a teacher-focused way, may also be aware of the data-projector, the structure of the lecture and the chattering students, but not be aware of how students are understanding what she is saying. Alternatively, she may be aware that students "don't understand", but not perceive addressing this to be part of teaching in a lecture. Jean may often be focally aware of how much she wants to cover in the lecture and whether she is going at the right pace, whereas these aspects may rarely be focal for Jane.

Jane and Jean are experiencing teaching in qualitatively different ways which are related to the structure of their awareness and the intertwined meaning of teaching. According to Marton and Booth (1997), when we experience a phenomenon in a particular way, certain

aspects of the phenomenon are discerned and focused on simultaneously in our awareness while other aspects remain in the background. A way of experiencing something can be described in terms of the nature of awareness:

“a way of experiencing something” is experiencing something *as* something, experiencing a meaning that is dialectically intertwined with a structure. “A way of experiencing something” is a way of discerning something from, and relating it to, a context. The meaning of something for someone at a particular point in time corresponds to the pattern of parts or aspects that are discerned and are simultaneously objects of focal awareness. (Marton and Booth, p. 112)

Different ways of experiencing a phenomenon correspond to different patterns of aspects of the phenomenon that are simultaneously discerned from the context and focused on in awareness. These different patterns of experienced aspects of the phenomenon correspond to different intertwined meanings of the phenomenon. The relatedness of the aspects to the phenomenon, the relatedness of different aspects within a pattern, and the intertwined meaning of the phenomenon are critical in distinguishing different ways of experiencing. Borrowing some of the language of phenomenology, the way in which aspects are discerned and related to each other within a way of experiencing are described as the internal horizon, and the way in which the phenomenon is separated from but related to its context is the external horizon (Marton, Dall’Alba and Beaty, 1993; Marton and Booth, 1997).

Compared with less complete ways of experiencing, more complete ways, such as Jane’s experience of teaching, correspond to more complex patterns of aspects and an expanded internal horizon with a related shift in meaning.

The aspects which need to be simultaneously discerned and focused on in order to experience a phenomenon in a particular way are known as the *critical aspects* of that way of experiencing. From the experiencer’s perspective, awareness of these critical aspects separates a more complete from a less complete way of experiencing, but the more complete way still includes awareness of the aspects of the less complete. From a researcher’s perspective, this means that each successively more complete category in an

inclusive hierarchy can be described in terms of the set of critical aspects which separates it from the previous one.

The description of a way of experiencing something in terms of the nature of the experiencer's awareness of certain critical aspects begins to make it possible to describe a general framework for discerning and analysing differences between different ways of experiencing teaching. However in order to describe the parts of this framework, it is necessary also to consider the general structure of a way of experiencing teaching.

A framework for analysing the experience of teaching

Teaching and learning, like other phenomena related to human thought and actions, can be seen as a psychic (or psychological) phenomenon in the sense described by Brentano (n.d., cited in Marton and Booth, 1997). These phenomena have the quality of intentionality; they are directed at something beyond themselves (Husserl, 1952/1980; Marton and Booth, 1997; Sandberg, 1997; Svensson, 1997). Marton and Booth (1997) use the idea of intentionality in describing the experience of learning, and in describing a framework for analysing the experience of teaching I will draw directly on their description.

Learning involves particular acts that are directed towards particular objects. Marton and Booth (1997) distinguish analytically between this *how* and *what* of the experience of learning. The *how* includes the experience of both the *act of learning* and the *indirect object* of learning. The *act* of learning is the way in which learning is carried out and the *indirect object* of learning relates to the kinds of capabilities that the learner is trying to develop beyond the learning event. The *what* of the experience of learning refers to the direct object of learning – what it is that the learner is trying to learn.

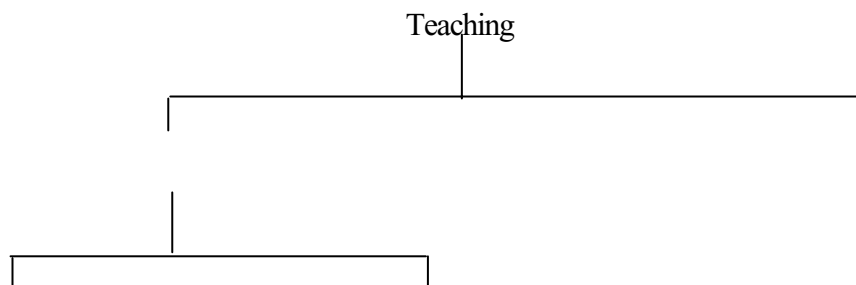
The experience of teaching, like learning, also has *how* aspects - acts and indirect objects - and *what* aspects - direct objects. Figure 2.1 shows, by analogy with Marton and Booth's framework for describing the experience of learning, an analytic framework for describing

ways of experiencing teaching. While this framework shows the act, direct object and indirect object as distinct aspects, it should be emphasised that, as with learning, within the experience of teaching they are experienced as inter-related parts of a whole.

A way of experiencing teaching can be seen as a complementary pattern of aspects of the act, indirect object and direct object of teaching, which together constitute a particular meaning of teaching. This way of constituting a way of experiencing follows on from and extends Marton, Dall’Alba and Beaty’s (1993) approach to constituting conceptions of learning in relation to their complementary *how* and *what* aspects. The relationship between these aspects is one of intentionality.

Within this framework, the *what* aspects of teaching are what is taught. The *how* aspects of teaching includes the acts that the teacher uses in teaching and the indirect objects that the teacher seeks to achieve or bring about as a result of teaching. The act, object and indirect object of teaching each have an internal and an external horizon. Collectively these internal horizons make up the internal horizon of each way of experiencing teaching – the parts of that way of experiencing and the relations between them that give that way of experiencing its structure and intertwined meaning. The collective external horizons make up the situations or contexts in which that way of experiencing teaching is embedded and against which it is experienced.

The aspects of a way of experiencing teaching can be seen as related to aspects of conceptions of teaching, approaches to teaching and the objects of study that teachers constitute for their students, but with some important differences. I will briefly describe these in the next sections before summing up the key points from this chapter and their implications.



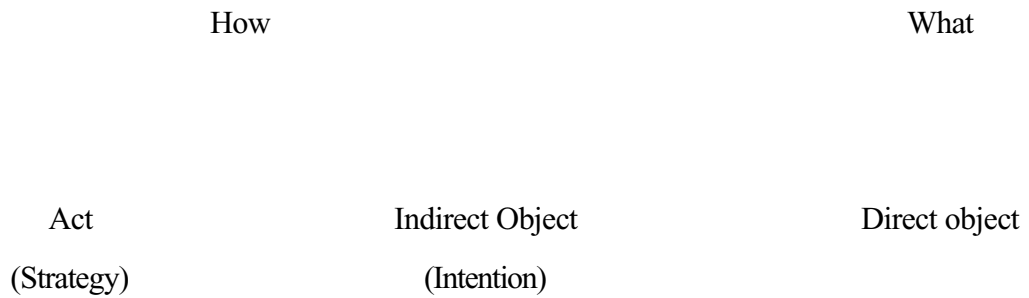


Figure 2.1 The experience of teaching: an analytic framework

The direct object of teaching

The direct object of teaching refers to what is taught. As Entwistle (1976) suggests, this is a little more complex than what is learned. You teach someone something, or perhaps teach something to someone. So the direct object of teaching may be the subject matter that is taught, the students who are taught or the relation between them. Kugel's (1993) speculative account of how professors develop as teachers represents these as the focus of separate stages of teacher development, where a focus on the content precedes a focus on students as individuals and then on students as learners of the content. Alexandersson (1994) dealt with this by claiming that for some schoolteachers the focus was on the students, for others on activity in itself, and for others the focus was on the content.

Martin and Ramsden (1992) described four qualitatively different ways in which knowledge was represented in teaching: as a taken for granted existing body of knowledge; as a body of knowledge to be structured by the teacher; as discovered by students; as socially constructed and problematic. In the first two representations, the content seems represented on its own, whereas in the second two it is represented in relation to students' learning. Prosser et al's (1994) study also showed this distinction between teachers' focus on their own knowledge or syllabus knowledge, or on students' developing or changing conceptions.

In the case of university teaching, the direct object of teaching can be seen as very similar to the constituted object of study (Martin et al, 2000). The two are not theoretically identical. The focus in researching the object of study (Martin et al, 2000) is on the something being taught. The starting points in Martin et al's study were on the structure of the subject matter and how it was conceived in relation to it being taught and learned. In more complete ways of experiencing, the constituted object of study is a relation between the something and the students, while in the less complete it focuses only on the something which is taught. This excludes focuses that are purely on the someone, such as those found by Alexandersson (1994). However, considering the outcomes of previous studies of university teachers' conceptions, there is little evidence that similar focuses would be experienced by university teachers. The range of variation in the direct object of university teaching could well be the same as the range of variation in the object of study.

The act and indirect object of teaching

The act and indirect object of teaching are the intertwined parts of *how* the teacher teaches. The relationship between them is one of intentionality. The teacher uses particular acts that are directed towards bringing about certain things beyond the actual teaching event. The act and indirect object are very similar to the teacher's approach to teaching (Trigwell et al, 1994; Trigwell and Prosser, 1996; Martin et al, 2000²), where the act could be seen as the strategy aspect of an approach and the indirect object as the intention aspect.

Conceptions of teaching and approaches can be seen as closely related when described in relation to the same teaching situation. According to Trigwell and Prosser (1996), student-focused conceptions of teaching are related to approaches to teaching in which student-focused strategies are aimed at helping students to develop or change their conceptions. Teacher-focused conceptions are related to approaches to teaching in which teacher-focused strategies have the intentions of transmitting information to students or having them

² Martin et al (2000) use the term "act of teaching" differently, to describe the relation between the what (object of study) and how (approach). In this sense their use of "act" is similar to my use of "way of experiencing".

acquire concepts. The intentions of the approaches are related directly to the *how* aspect of conceptions of teaching.

The *how* aspect of conceptions of teaching and the intentions of approaches to teaching can also be seen as logically related to the *what* aspects of teachers' conceptions of student learning (Trigwell and Prosser, 1996). Student-focused conceptions and intentions are related to conceptions of student learning as conceptual development or conceptual change (*what*) to satisfy students' internal demands (*how*). Teacher-focused conceptions are related to conceptions of student learning as accumulating information or acquiring concepts to satisfy external demands. Variation in the acts and indirect objects of teachers' ways of experiencing teaching is likely to be closely related to the variation in approaches to teaching and conceptions of learning described in previous studies.

The use of this analytic framework in my study

In my study, I have used the framework for describing the experience of teaching as an analytic framework for discerning and describing different ways of experiencing teaching. Each qualitatively different way of experiencing teaching can be described in terms of its complementary pattern of critical aspects and intertwined meaning. Differences between different ways of experiencing can be discerned and described in terms of differences in their patterns of critical aspects and related meanings. In adopting this framework, I have also adopted the expression “way of experiencing” teaching in preference to “conception” of teaching. This is in part following Marton and Booth (1997) and in part to point to the difference between my analytic focus and the focuses taken in previous studies of conceptions and approaches.

Chapter summary

This chapter has described and analysed a range of previous studies of university teachers' conceptions of teaching, orientations towards teaching and conceptions of related phenomena with the aim of identifying the critical differences between teacher-focused and student-focused ways of experiencing teaching. While previous studies have identified a range of critical aspects which distinguish student-focused from teacher-focused ways of experiencing teaching, we do not yet have an understanding of complete patterns of complementary critical aspects of the direct object, act and indirect object of teaching. Part of my study therefore aims to describe ways of experiencing teaching in terms of their complementary patterns of critical aspects and intertwined meanings. Differences between different ways of experiencing teaching can then be described in terms of their differences in their patterns of critical aspects. Findings that are related to this aim are presented in chapter 5.

The description of a way of experiencing teaching in terms of the nature of a teacher's awareness, provides a response to what it is that is likely to change when teachers' ways of experiencing change. What should change is the aspects of teaching which are simultaneously and focally in teachers' awareness and which give teaching its intertwined meaning. Change from a teacher-focused to a student-focused way of experiencing should correspond to an expansion in the internal horizon of the teachers' awareness of teaching to include the critical aspects of student-focused ways of experiencing. To see whether this is the case, it is clear that we need longitudinal evidence that relates the critical aspects of different ways of experiencing teaching to the experiences of individual teachers over time. A further part of my study aims to achieve this, and the related findings are presented in chapter 6.

In addition to identifying the critical aspects which teachers need to experience in order to change their ways of experiencing teaching, it is also important to identify how teachers might come to experience these critical aspects. The next chapter describes and analyses a range of literature relevant to university teachers' learning and teaching development activities with the aim of identifying how teachers might come to change their ways of experiencing teaching.

Chapter 3

How do university teachers' ways of experiencing teaching change: perspectives from the literature

In the previous chapter, I focused on perspectives on what it is that changes when teachers change their ways of experiencing teaching. In this chapter, I analyse literature which relates to *how* university teachers' ways of experiencing teaching might change. How do teachers become capable of experiencing teaching in student-focused ways? This chapter begins with a description of how changes in ways of experiencing occur according to the theory of variation, learning and awareness (Marton and Booth, 1997; Marton and Tsui, 2003). It then uses this theoretical perspective to analyse four common perspectives on university teachers' learning and development. Each perspective describes at least part of what is required for teachers to change their ways of experiencing teaching, but none describe the internal relations between teachers' intentions for change, what teachers need to learn in order to change and how they might learn it. I then describe a framework for analysing *ways of experiencing change in teaching*. I argue that this framework can be used to describe the internal relations between what teachers focus on and how they come to focus on it when they change their ways of experiencing teaching. This framework can then be used to address the question of why some teachers change their ways of experiencing teaching and others in the same situation do not.

Change as learning to experience teaching differently

Change in a way of experiencing teaching means a change in the relation between the teacher and her or his teaching world. Both the teacher and the world of teaching as experienced by that teacher change. Change in experience comes about through a particular kind of learning:

Learning takes place, knowledge is born, by a change in something in the world as experienced by a person. The new way of experiencing something is constituted in the person-world relationships and involves both.

...

Learning is mostly a matter of reconstituting an already constituted world. (Marton and Booth, 1997, p. 139)

According to Marton and his colleagues (Marton and Booth, 1997; Marton, Runesson and Tsui, 2003), learning to experience something in a new way requires the experience of particular kinds of variation. Learning comes about through discerning the critical aspects of the new way of experiencing, separating them from the context and focusing on them simultaneously. In order to discern an aspect and separate it from other aspects and from the context, we need to experience variation in the dimension corresponding to that aspect. Aspects that never vary cannot be discerned, so remain taken for granted (Marton and Booth, 1997).

The relation between variation and discernment of aspects can be illustrated by reference to common features of our everyday experience. For example, if everyone had red hair there would be no variation in the dimension of hair colour. Hair colour would have no meaning and would not be discerned as a distinguishing feature of a person. For teachers, an example might relate to their awareness of the structure of their subject matter. If a teacher has always experienced their subject matter as a sequential series of topics in which principles are followed by examples, then this structure is likely to be taken for granted. It will not be discerned as a feature of the subject matter that is separate from the topics, principles or examples included within the structure. The teacher might be puzzled or

surprised if asked a question about why the subject matter is structured that way, as it is simply perceived to be logical, or the way the subject is. If the teacher then discusses the subject with a colleague who is using a case-based approach to the same subject matter, the structure of the subject matter might be experienced as a dimension of variation. The teacher might become aware of two possible values on this dimension of variation in subject structure: sequential topic-based and case-based. Discerning an aspect of teaching in this sense implies constituting its meaning.

In addition to experiencing variation related to the critical aspects of a way of experiencing something, we also need to see them as aspects of that something. We need to become simultaneously and focally aware of the overall pattern of critical aspects that constitutes that way of experiencing, and be able to separate this pattern from aspects of the context. This implies that we must experience simultaneous variation in the dimensions related to these aspects, against aspects of the context that remain invariant. Marton et al (2003) describe four patterns of variation that are necessary for us to come to experience something in a particular way:

- *Contrast* between an aspect and other aspects of a dimension of variation, for example the contrast between topic-based and case-based structures mentioned above. This contrast may be made simultaneously, by experiencing different aspects at the same time, or contemporaneously, by comparing a new aspect with previous experience of aspects of the same dimension (Pong, 1999);
- *Generalisation*, by experiencing multiple appearances of an aspect. For teachers, an example might be experiencing multiple strategies for encouraging students to interact and negotiate meaning in classes of varying types and sizes;
- *Separation* of an aspect from other aspects, which implies that the aspect to be separated needs to vary while others remain invariant. For teachers to separate the aspect of teaching strategies from the aspects of class type, size or discipline area, they might need to experience varying examples of strategies that are used in a particular size and type of class in their own discipline area;

- *Fusion*, in which all of the critical aspects of a particular way of experiencing are experienced simultaneously. Marton et al (2003) maintain that experiencing the aspects separately and then fusing them is likely to be more effective than never separating them.

From a variation and learning perspective, learning to experience teaching in a student-focused way means becoming simultaneously and focally aware of the critical aspects of a student-focused way of experiencing. Teachers must have separately experienced variation in dimensions relating to the act, direct object and indirect object of teaching in order to become aware of their critical aspects. Some teachers might first become aware of variation between interactive and non-interactive acts of teaching, and later become aware of variation between interaction aimed at getting right answers or correcting wrong ones and interaction aimed at helping students to compare different conceptions of the subject matter. Other teachers might first become aware of variation between students' prior conceptions of the subject matter and their own conceptions, and later become simultaneously aware of variation between acts of teaching which involve telling students the teacher's conception and acts which take into account and challenge students' conceptions. It is not known whether one particular ordering of this initial discernment of aspects and dimensions might be more favourable than another for encouraging later fusion of these aspects. However it is clear that all of the critical aspects must be simultaneously discerned at some point.

When teachers discern and separate particular aspects and dimensions of variation, they do this in a situation that affords this discernment, whether this is a formal learning situation or an informal learning situation in the workplace. Whether this discernment happens or not then relates to the *relevance structure* that the teacher experiences in the situation (Marton and Booth, 1997; Marton and Bowden, 1998). The relevance structure of a situation is a relation between the experiencer, including their prior experiences and personal contexts, and the features of the situation:

our awareness is at every moment a reflection of what we have experienced earlier. But, as a rule, we also have some premonitions of what is going to happen and we are driven by some intentions, things that we are trying to achieve. ... This temporal

embeddedness constitutes the personal context of our experiences and our acts. The personal context springs from our earlier experiences, but also from our aims and from the future which we expect and want to encounter. The way in which a particular experience relates to the personal context and the way in which the personal context is making certain aspects of the particular situation appear more important than others, making them come to the fore, while others remain in the background, defines the relevance structure of the situation. (Marton and Bowden, 1998, p. 38)

The idea of the relevance structure becomes particularly important when we consider differences in what individual teachers might be trying to achieve in a situation of learning about teaching. Teachers coming into “the same” learning situation with different prior experiences and intentions are likely to experience different relevance structures. They will discern and focus on different aspects corresponding to different dimensions of variation, and achieve different learning outcomes. For example, in a workshop on improving teaching and learning in lectures, a teacher who comes with the aim of improving students’ understanding may focus on different aspects from a teacher whose aim is to control student discipline problems. These two teachers will experience the “same” workshop in different ways and learn different things, similar to the differences in students’ experiences of learning in the same lectures (Prosser and Millar, 1989). When these teachers return to their own teaching situations, they will experience them as having their own particular relevance structures, such that different aspects of the workshop may be evoked and applied.

Change in teachers’ ways of experiencing teaching in their teaching situations could come about through them becoming aware of a new way of experiencing teaching for the first time, and/or through seeing their teaching situations as affording a different way of experiencing. On the basis of the theory of learning and awareness, it would be expected that a change in overall awareness of teaching would be from less complex teacher-focused ways of experiencing to more complex student-focused, but not the other way around.

Variation in teachers’ perceptions of their teaching situations may also relate to changes in the ways of experiencing teaching which are evoked in these situations (Prosser and

Trigwell, 1999). Unlike overall changes in awareness, this change might occur in either direction. For example, a teacher who is aware of a complex way of experiencing teaching and teaches according to this way in tutorials but in a less complex way in lectures may come to see lectures as affording the more student-focused way of experiencing teaching. However, a teacher might also come to perceive that a particular teaching situation no longer affords a more complex way of experiencing teaching and therefore teach according to a less complex one. For example, a teacher might come to perceive that her class size has become too large to permit genuine two-way interaction with students, so teach in a more teacher-focused way than in a class she perceived as smaller (Prosser and Trigwell, 1997a).

Situations in which university teachers can learn to experience teaching in student-focused ways in relation to their teaching therefore need to meet three conditions:

1. They need to afford the separate, then the simultaneous experience of the critical aspects of student-focused ways of experiencing teaching, by affording the experience of variation in the corresponding dimensions;
2. They need to be experienced as having relevance structures which bring these critical aspects and dimensions to the foreground of teachers' awareness so that they are discerned and separated from other aspects of the situation;
3. They need to enable teachers to experience their own teaching situations as having relevance structures which evoke student-focused ways of experiencing teaching. The relevance structure here might be seen as a relation between the situation and the teacher's awareness of the kinds of teaching which might be possible for them in that situation.

In the following sections of this chapter, I focus on a selected range of practices and perspectives relating to teacher learning, with the aim of analysing how they might relate to change in teachers' ways of experiencing teaching. Using the theory of variation and learning, I focus on whether and how they might bring about simultaneous (or contemporaneous) variation related to the critical aspects of new ways of experiencing

teaching and how they might enable teachers to experience relevance structures which bring this variation to the foreground of their awareness.

Literature on teacher learning and change in higher education

While there are growing bodies of literature on university teacher development, preparing new teachers to teach and improving teaching (see for example Wright and Associates, 1995), relatively little of this focuses directly on changing teachers' ways of experiencing teaching. Many teaching development practices have evolved without a well-developed or theoretically informed perspective on how university teachers develop their capabilities for teaching (Gilbert and Gibbs, 1998; Martin and Ramsden, 1994). There are few longitudinal empirical studies of university teachers' learning or development, with the exceptions focusing on teachers undertaking formal teaching development courses (see for example Martin and Ramsden, 1994; Ho, 1998, 2000) and on the experiences of graduate teaching assistants (Nyquist and Sprague, 1998).

In the following analysis of literature on teachers' learning and development, I have taken a highly selective approach. I have chosen four common perspectives on teacher learning: as acquiring and applying teaching strategies; as developing through experience; as reflecting on teaching; or as changing conceptions of teaching. The first perspective was chosen because it reflects a very common goal of teacher development programs (Gibbs and Coffey, 2000). The other three perspectives were chosen because they implicitly or explicitly focus on development, transformation or change in teachers' perspectives or conceptions. I focus on how each perspective sees teacher learning as occurring and the kinds of learning outcomes that are seen as being desirable. I then use the theory of variation and learning to analyse what each perspective might contribute to an understanding of how university teachers' ways of experiencing teaching change.

Teacher learning as acquiring and applying teaching strategies

In one study (Radloff, 2002), 91% of a group of new further education teachers described learning about teaching as gaining knowledge and applying teaching skills. After a two-year program which sought to change their understandings, the majority still saw learning about

teaching in this way. In the higher education context, this view of learning about teaching can be inferred as a component of most of the teacher development approaches that Gilbert and Gibbs (1998) describe as based on atheoretical or behavioural change frameworks, such as workshops, videotaping of teaching, individual consultations and using student feedback. These approaches developed in the 1970s and were based around a view of teacher learning as shaping performance towards the possession of generic teaching skills (Tiberias, 1995; Light and Cox, 2001). Teachers acquired and used strategies, gained feedback on how well they performed and were given suggestions for improvement. This view of teacher learning is seen as limited in its capacity to inform teachers' ongoing professional development as it does not acknowledge teachers' contexts or the importance of them reflecting on and making informed decisions about their own practice (Light and Cox, 2001). More recent versions of strategy-based approaches are less generic and place more emphasis on contextualised reflection on practice (Tiberias, 1995), but developing skills has still been described as a dominant goal (Gibbs and Coffey, 2000).

The emphasis on strategies is consistent with most beginning university teachers' desires for more and better survival strategies (Isaacs and Parker, 1997). While strategy-based approaches to teacher development have been criticised as technicist (Halliday and Soden, 1998), it is obvious that teachers enact their teaching through particular teaching strategies, and that change in teachers' acts of teaching are part of change in their overall ways of experiencing teaching. The key issue is how learning new strategies relates to learning to experience teaching in a student-focused way. Do teachers first need to experience variation in strategies and/or ways of using them, and then discern other critical aspects of student-focused ways of experiencing teaching and fuse them with critical aspects of the act (strategies), or is a different order of learning more effective? Also, does a focus on acquiring and applying strategies preclude or limit focuses on other critical aspects of teaching?

The literature on teaching development workshops implies that providing teachers with strategies for promoting interaction and student engagement will result in changes in

teachers' practices with consequent benefits for students' learning. Teachers' conceptions are generally not considered. Impacts on learning are rarely evaluated (Eison and Stevens, 1995) but there is some evidence of change in teachers' practices as a result of workshop participation. Evaluations of the national series of "teaching large classes" workshops provided by the Oxford Centre for Staff Development found reported changes in teaching practices and assessment for more than one quarter of classes taught by workshop participants, along with reports of changes in teachers' awareness³³ (Gibbs, 1995a).

³³ It is unclear whether change in awareness meant awareness of teaching strategies only or of other aspects of teaching.

While many participants reported feeling reassured about their current practices, some did report changes in their practices in the four months following the workshops. This change was correlated with the number of practical teaching ideas introduced in the workshop (Rust, 1998). Some of the examples of changed practice were suggestive of student-focused acts of teaching, such as using small group discussions in which students helped each other, or having students read each others' work, but it is not clear what this says about the teachers' ways of experiencing teaching.

Trigwell (1995) and Prosser and Trigwell (1999) maintain that unless teachers are already aware of student-focused conceptions of teaching they will be unable to make use of "student-focused" strategies in student-focused ways. Small "buzz" groups will be used to give the teacher and students a break from a lecture rather than as a way for students to articulate their understanding and experience variation in ways of understanding and for teachers to find out about students' ways of experiencing. Walker's account of the expansion of his awareness within sophisticated conceptions of teaching supports this perspective, describing how changes in his conceptions were followed by "a considerable period of experimentation as different techniques were tried and adapted through trial and error" (Entwistle and Walker, 2002, p. 34). From this perspective, one interpretation of Rust's (1998) findings is that some workshop participants might already have been aware of student-focused ways of experiencing teaching in some contexts, but not seen them as possible in very large classes. The workshop may have enabled them to see it as possible to teach in these classes in student-focused ways by using different strategies.

Experiencing variation in teaching strategies is part but not all of what is required to experience teaching in a different way. Strategies relate to the act but not the objects of teaching. Teacher learning situations which focus on strategies might not afford the experience of variation in aspects of other dimensions, or teachers might not experience relevance structures which bring these other aspects to the foreground of awareness. On the other hand, these situations might enable some teachers to see it as possible to enact

student-focused ways of experiencing teaching in their own teaching situations. They might also be a first step in experiencing a pattern of aspects which is later fused.

Teacher learning as developing and learning from experience

Developmental perspectives suggest that changes in ways of experiencing are associated with stages of development that teachers progress through as they gain more experience (Fox, 1983; Kugel, 1993; Sprague and Nyquist, 1991; Nyquist and Sprague, 1998; Biggs, 2003). Typically the proposed developmental path goes from having a focus on self or content to a focus on teaching skills and strategies to a focus on learning outcomes and relating teaching to student learning. Each stage is accompanied by an increase in the complexity of teachers' understanding of teaching. While the descriptions of particular stages and different conceptions of teaching show some similarities, the two perspectives are underpinned by different ontologies. Developmental stages are sequential and teachers at different stages are seen as having different characteristic concerns and focuses, while conceptions are relational.

From a developmental perspective, learning and change occur as earlier views are modified by teaching experience. Reflection is seen as critical for teacher development (Nyquist and Sprague, 1998), but teachers at different stages notice and reflect on different things. They begin to move towards the next stage of development as they overcome the concerns and become more confident in dealing with the uncertainties raised at previous stages. For example, at the stage of focusing on self and skills, teachers may be particularly sensitive to students' reactions to teaching and use these to tell them whether things are working well or not, while at other stages students' reactions to teaching may be seen as less important (Kugel, 1993). Entwistle and Walker's (2002) description of the latter's change within sophisticated conceptions also suggests a process of progressively taking different focuses for reflection, from considering the teacher's own understanding of the nature of knowledge in the subject to students' understanding to students' critical thought and reflection.

Research on student schoolteachers' theories of teaching suggest important effects of teachers' prior experiences and beliefs and their practice teaching experiences on development and change (Kettle and Sellars, 1996; Jones and Vesilind, 1996; Entwistle et al, 2000). Entwistle et al's (2000) study suggested that student teachers often begin with unexamined but highly emotional beliefs about good teaching influenced by their prior experiences as students and/or as parents and their cultural backgrounds. Their student teachers developed more complex, coherent and explicit conceptions as a result of integrating teaching experience with reflection on alternative perspectives on education offered by the theoretical literature. Similarly, Jones and Vesilind's (1996) study found that pre-service teachers' knowledge structures which were teacher-focused and organised as lists of topics before teaching experience became more student-focused, integrated and elaborated during and after teaching. However different influences were reported. Before teaching experience, student teachers reported that observation of other teachers, and university classes were major influences. At the mid-point of the teaching experience, unexpected student responses influenced knowledge re-organisation. After teaching experience, the teaching experience itself, experiences with students and experiences with other teachers were seen as most important.

University teachers typically have little or no formal teacher education prior to beginning to teach. For many, their teaching is substantially influenced by their own experiences as students. They try to adopt the teaching practices of teachers they admired and avoid the perceived flaws of teachers they disliked (Willcoxson, 1998). The teachers in Willcoxson's study reported being influenced by student feedback, observing colleagues or staff development workshops but only one teacher out of 15 had any formal teacher education. Their preferred ways of learning as students influenced their preferences for teaching but not necessarily their practices. Teachers who preferred to learn independently favoured lectures and tended to give traditional lectures. Those who preferred to work with others favoured group-based teaching strategies and didn't necessarily believe that traditional lectures are effective, but rarely or never used small-group learning activities in their own lectures. Willcoxson (1998) suggested that they may have lacked awareness of relevant

strategies or did not reflect on how effective their teaching actually was for learning. From a relational perspective, they may have been aware of student-focused ways of experiencing teaching but not seen these as possible in the context of their lectures.

Differences in individual teachers' development

All developmental models acknowledge that development is an individual process; some teachers develop to the "stage" of being student-focused and others don't (Nyquist and Sprague, 1998; Sprague and Nyquist, 1991). Some teachers may change the focus of their concerns from their own survival and content knowledge to their teaching strategies, but then simply seek to extend and improve their repertoire of skills (Kugel, 1993). Fox (1983, p. 161) also noted certain "reversions and pathologies". For example, some teachers may be captivating presenters who begin by having a view of teaching as being a tour guide for students who are travelling through the subject but end up leaving little time for students to experience it for themselves or develop their own ways of thinking.

Some teachers might also develop into "experts" without developing student-focused ways of experiencing teaching. Expert teachers are usually defined as experienced teachers who are good at teaching, as evaluated by peers and/or students. They are typically compared with inexperienced novices. In a rare example of an expert-novice teacher study in higher education, Dunkin and Precians (1992) compared what 12 award winning university teachers (experts) and 55 relatively new teachers described as important in enhancing student learning. Responses were coded on four independent dimensions: structuring learning, motivating learning, encouraging activity and independence, and establishing interpersonal relationships conducive to learning. The award winners were more likely to mention more than one of these dimensions and 11 out of 12 mentioned structuring learning, compared with less than half of the inexperienced teachers.

The 12 award winners had an average of 23.3 years of teaching experience, and yet illustrative quotes from their interviews indicated a range of qualitatively different ways of experiencing. Compare the following:

I think you've got to help them learn, you can provide ... the obvious things, so that they can get good notes or you can provide them with the notes you have ... and can cover the syllabus." (JK9, p. 488)

There is always the temptation to tell the students what it is that they need to know, but if through conversation you can relate to their particular situation rather than give them a spiel on what is standard results, then once a student is committed to stating their own position, then it's amazing how quickly and how clearly they crystallise their thoughts" (HC9, p. 489)

The first quote suggests a teacher-focused way of experiencing teaching, in which "structuring learning" appears to mean providing the teacher's knowledge structure to the students. Other quotes from this teacher suggest that the most important thing is to pass on his/her love of the subject and that it is not possible to talk with students in large lectures. The second quote suggests a student-focused way of experiencing teaching, in which "structuring learning" may relate to structuring opportunities for students to create their own knowledge structures.

The study provides evidence that teachers do not necessarily develop student-focused ways of experiencing teaching simply through years of teaching experience, or becoming "expert". In an overview of the relation between schoolteachers' knowledge and experience, Desforges (1995) argues that much teacher knowledge is atheoretical and that teachers' prior knowledge and beliefs are more likely to "close down on, rather than profit from, experience" (p. 385). He notes that some so called "expert teachers" do not appear to reflect on or be aware of the relations between aspects of their practice and their students' learning. Teachers can be good at enacting either a teacher-focused or a student-focused way of experiencing teaching (Trigwell, 2001).

Teachers' conceptions of developing teaching or change in teaching

Studies of teachers' conceptions of developing or changing their professional practice suggest that, as well as variation in teachers' concerns and levels of "expertise", there is

variation in teachers' conceptions of their own development or change as teachers (Åkerlind, 2003a; Larsson, 1986). Åkerlind (2003a) described three teacher conceptions of growing and developing as a teacher: as increasing comfort and confidence in teaching; as change in teaching practice; as a change in outcomes for the learner. These three conceptions are internally related to teachers' conceptions of being a teacher. Larsson's (1986) study focused on adult educators' conceptions of changes in their teaching due to experience. Four conceptions were identified, of which three related to perceptions of increasing skill: changing the focus of attention from the teachers' acts or planning towards the students acts' or thinking; collecting knowledge about how pieces of teaching work and choosing those which work best; changing the knowledge transmitted, from facts to principles or ways of reasoning. The fourth conception suggested that teachers could become less effective over time as their work became routine and less interesting. It was not that teachers would lose their competence but they may become less interested in using their full potential.

While these studies are underpinned by a relational rather than developmental perspective, the categories have similar focuses to the "stages" of development. Differences in teachers' conceptions of development or change may relate to teachers' experiencing different relevance structures in situations of learning about teaching. What teachers focus on might then relate to the direction of their "development" and whether they change their ways of experiencing teaching.

Summarising developmental perspectives

Overall, developmental models suggest that it is possible for some teachers to become capable of experiencing teaching in student-focused ways through learning in their everyday teaching contexts. This could be through expansion in their awareness of teaching or through seeing it as increasingly possible to enact student-focused ways of experiencing teaching in their teaching situations as they become more confident, overcome perceived constraints, develop their understanding of the subject matter or become aware of appropriate strategies. In the case of expanding awareness, developmental models suggest

an ordering of the discernment and separation of the critical aspects of student-focused ways of experiencing teaching. Variation related to the subject matter (direct object) may be discerned prior to discerning variation related to strategies (act) and discerning variation related to intentions for students' learning (indirect object). Teachers may fail to "develop" because they do not discern the student-focused aspects of these dimensions of variation, or because they do not fuse these aspects and come to experience them simultaneously as aspects of the experience of teaching.

Both developmental and variation perspectives suggest that teachers who take different focuses are likely to discern different things in the same situation and achieve different learning outcomes. Both perspectives also acknowledge that teachers' focuses vary according to the prior experiences, intentions and concerns that they bring to situations of learning or applying learning. However, while developmental perspectives see teachers' focuses as characteristic of teachers at different stages, from a variation and learning perspective teachers' focuses are relations between the teacher and the situation of learning. Differences in learning about teaching might relate either to differences in the patterns of variation that teachers' situations afford, or differences in the relevance structures that bring certain aspects and dimensions to the foreground of awareness. From a variation and learning perspective, it might be possible to structure particular spaces of variation (Runesson, 1999) that enable teachers to discern and focus on particular critical aspects.

Teacher learning as conceptual change

Unlike acquisition or development perspectives, conceptual change perspectives assume that change needs to be the focus of teacher learning and development programs. While there is relatively little research on conceptual change in university teachers, there is a much longer history of research on conceptual change, or the lack of it, in students studying academic content areas, in particular science (see West and Pines, 1985; Mason, 2001). Much of the early research assumed a rational, cognitive model of conceptual change (Strike and Posner, 1985) involving learners' dissatisfaction with their existing conceptions

and the minimal intelligibility, plausibility and fruitfulness or explanatory power of new conceptions. Conceptions were considered in relative isolation from the context, change was seen in terms of replacing the previous conception with a new one and cognitive conflict was assumed to be necessary. More recent revisions suggest that conceptions do not exist in isolation but are part of the learner's broader conceptual ecology. Conceptions and conceptual change are affected by factors such as learners' view of knowledge in the subject area and their attitude towards learning in the subject (Strike & Posner, 1992).

This rational or "cold" conceptual change model has been criticised from several perspectives. Proponents of a "hot" model of conceptual change (Pintrich, Marx & Boyle, 1993) maintain that learners' theories and models and the likelihood of change are influenced by personal, motivational, social and contextual factors. Social constructivist and situated learning perspectives (see for example Vosniadou, Ionannides, Dimitrakopoulou and Papademetriou, 2001; Caravita, 2001) maintain that conceptual change is not a matter of decontextualised conceptual replacement but of a gradual and contextualised process involving both revolution and evolution in learners' conceptions. Rather than replacing previous conceptions through a process involving cognitive conflict, learners may learn to discriminate between situations in which one conception or another may be seen to be adequate (Limon, 2001). Linder (1993) makes a similar point, referring to the reasonableness of someone describing a vacuum cleaner as "sucking" in a real world context, even though this is clearly at odds with a scientific explanation of the process. Conceptions are seen not as existing in isolation, but as inter-related with other aspects of students' prior knowledge, beliefs and taken-for-granted assumptions.

While these more recent perspectives on conceptual change are underpinned by dualist rather than non-dualist ontological perspectives, they have some similarities with a phenomenographic perspective on learning as an expanding awareness and shift in focus. From both perspectives, learners need to become aware of differences between previous and new conceptions and discern and separate instances of the phenomenon from situations in which they occur.

Conceptual change models and university teachers' learning

In a direct application of conceptual change theory to university teachers' conceptions of teaching, Ho (1998, 2000; Ho et al, 2001) developed and implemented a program influenced by the work of Strike and Posner (1985), Argyris and Schön (1974) and others. Her program involved four processes, intended to raise teachers' awareness of alternative conceptions and create a desire and capacity for change:

- Self-awareness, in which participants reflected on their ideal conceptions of teaching and their actual teaching practices, using a self-reflective guide;
- A confrontation process, where participants identified differences between their ideals and actual practices and were introduced to some alternative conceptions. This included analysing personal conceptions on the separate dimensions from Samuelowicz and Bain's (1992) study of teachers' orientations. This process was intended to raise participants' awareness of dilemmas arising from their existing conceptions in use (Argyris and Schön, 1974) or dissatisfaction with these conceptions (Strike and Posner, 1985);
- Exposure to alternative conceptions, which introduced participants to research on teachers' conceptions of teaching and students approaches to learning and to strategies and case studies designed to encourage learning-centred conceptions of teaching;
- Commitment building and refreezing, which encouraged participants to develop a commitment to change in their teaching and a vision for that change. This process was undertaken by participants following the face-to-face sessions in the program, with relatively few participants bringing it to completion.

Of the 40 teachers who participated in the activities, 21 completed a workshop journal and were interviewed after the program about its impact, and 12 of this 21 (57%) reported a change in their conceptions in the desired direction. Twelve of the 40 participants were interviewed both before and after the program. The conceptions that they expressed were classified using Samuelowicz and Bain's (1992) categories (Ho et al, 2001). Of the nine

teachers classified as having teaching-centred conceptions before the program, two demonstrated changes towards learning-centred conceptions which were large enough to affect students' approaches to learning. Four showed smaller changes in a learning-centred direction (Ho et al, 2001). It is reasonable to conclude that the program achieved some success, but it is also useful to examine differences in teachers' responses.

Ho (1998) noted that 86% of participants found the program useful, even when its impact was opposite to that expected. The reflective self-awareness process and exposure to alternative conceptions were generally seen as more useful than the confrontation process. Teachers made four different responses to the exposure process: becoming committed to change and aware of the need for change; learning about alternative conceptions; claiming to know the alternative conceptions already; defending existing conceptions and resisting alternatives as not appropriate in their teaching situations. Ho (1998) also noted at least one participant who appeared to have "selectively responded to the discussion of conceptions of teaching, picking on those which conformed to her own conception and found the exercise useful in reinforcing her existing conceptions" (p. 29).

While Ho's (2000) program was based on a conceptual confrontation model and focused directly on teaching, Halliday and Soden (1998) took a somewhat different focus and approach. They aimed to change teachers' understandings of learning, on the assumption that this would relate to changes in teaching. Their program was underpinned by the view that teachers might change their understanding of learning through comparing their own ideas about practice with theoretical ideas from a range of disciplines, thus becoming more capable of interpreting their practice in theoretically justifiable ways. Teachers who participated in their program were given a series of lectures and readings from psychology, sociology and philosophy and asked to write and re-interpret their teaching practice in the light of what they had learned from their reading.

The 11 participating teachers were interviewed four times over the course of the program and most showed changes over time in the categories of justification they used for their

practice. At the beginning of the program, only one teacher used supporting literature to justify practice, by the eighth month all 11 did. But teachers had a wide choice of possible learning theories that they could draw on, and theoretical justification did not necessarily mean conceptual changes. As Halliday and Soden (1998) note:

As might be expected, lecturers chose to study theories that were close enough to their prior knowledge to be incorporated without radical reorganisation and unravelling of this existing knowledge” (p 31.)

One interpretation of this could be that participants simply further developed their understanding of their existing conception, but there was some evidence that their views about learning changed over time and that this was related to changes in teaching practice. Seven participants expressed a view of learning as literal recording at the beginning compared with none at the end. None described learning as a dialogue with ideas at the beginning, compared with eight by the end. Teachers who came to see learning as a dialogue engaged in less exposition and more interrogation of ideas in their teaching.

From a variation and learning perspective, the programs described by both Ho (1998, 2000) and Halliday and Soden (1998) appear to have enabled teachers to discern and separate aspects related to particular dimensions of ways of experiencing teaching, such as how students learn and the act of teaching, then experience them simultaneously. Both programs appear to have enabled teachers to experience relevance structures for learning and action through raising awareness of variation between teachers’ current understandings and desired understandings, but they did this in different ways. Ho (1998, 2000) favoured confrontation between current and espoused practice, while Halliday and Soden (1998) favoured encouraging reflection on theoretically underpinned compared with informal justifications for practice on the grounds that university teachers would wish to be able to justify their practice in more formal ways. Both programs suggest that becoming aware of theoretical perspectives on learning and teaching and of personally significant differences between current experience and these theoretical perspectives might be important for teachers to change their ways of experiencing teaching.

Teacher learning through critical reflection

Developmental stage models and the implementations of conceptual change models described above assume that reflection is a necessary part of the kind of learning which leads to teacher development or change. Many professional development programs for university teachers focus on reflective practice or include reflection on practice among their essential components (Gilbert and Gibbs, 1998). The ability to reflect critically on and undertake action research into teaching practice are seen as necessary capabilities for professional university teachers working in changing teaching contexts (Biggs, 2003; Light and Cox, 2001).

The earliest descriptions of reflection see it as a process of making sense of experience and looking at the justification for and implications of one's beliefs (Dewey, 1933). Later authors describe reflection as critical in the development of professional practice which goes beyond routine problem solving (Schön, 1983, 1987). According to Schön (1983), reflection-in-action enables professionals to make explicit and question their tacit understandings of practice, make sense of new and uncertain situations and create new ways of framing or theorising phenomena or situations. Critical reflection on underlying assumptions and presuppositions can lead to change in understandings of professional practice (Brookfield, 1995; Schön, 1983, 1987) and transformation in meaning perspectives (Mezirow, 1991). Reflection is seen as essential for transforming experiencing into learning (Boud, Keogh and Walker, 1985; Boud and Miller, 1996), and some, but by no means all, of this learning may relate to change in ways of experiencing.

Reflection, like learning or teaching, can be interpreted as having the characteristic of intentionality (Husserl, 1952/1980; Marton and Booth, 1997; Sandberg, 1997). It is reflection on something. Within the literature on teacher reflection, different authors consider reflection to focus on different objects, and have different intentions. Teacher reflection may be directed towards improvements in teaching practice (for example

McAlpine and Weston, 2002), or towards questioning the operation of power in educational settings and the hegemonic assumptions that teachers often take for granted but that are not necessarily in their best interests (Brookfield, 1995). What teachers reflect on and how they reflect on it are likely to relate to whether reflection can bring about change in ways of experiencing teaching.

A study of six exemplary mathematics professors' reflections in and on their actions in class (McAlpine, Weston, Beauchamp, Wiseman and Beauchamp, 1999) showed reflection on goals predominantly related to teaching methods, content, student understanding and student participation. McAlpine et al's (1999) model of reflection shows these teachers as monitoring verbal and non-verbal cues from students (the examples given related to apparent interest and engagement) in relation to goals and making adjustments when the observed cues fell outside a particular corridor of tolerance. The focus was on improving the achievement of goals and most of the changes made during and after the class were to teaching methods and content rather than learning objectives, evaluation or other aspects of teaching. Knowledges which teachers described as informing their monitoring and decision making included pedagogical knowledge (which seemed strategy-related), their knowledge of learners, content, pedagogical content knowledge and prior experience. There was little evidence in the study of critical reflection on underlying assumptions. Perhaps the "exemplary" teachers no longer questioned assumptions underlying their practice, or perhaps the study's focus on reflection as a means of improving practice excluded this focus. In the case of poor rather than exemplary teachers, reflection on classroom cues and students' behaviour does not bring about the improvements in practice if teachers remain unaware of their assumptions about negative student behaviours and respond to them in teacher-centred ways (Hativa, 2002).

As Brookfield (1995) points out, not all teacher reflection is critical. Critically reflective teaching requires that teachers look at their teaching from different perspectives in order to become aware of their taken-for-granted assumptions. Brookfield (1995) describes this as a process of looking through the different lenses of past experience and personal beliefs,

students' perspectives, colleagues' perspectives and the literature on teaching and learning. By comparing and contrasting the perspectives seen through these lenses, the critically reflective teacher may come to challenge and change their prior assumptions.

From a non-dualist, variation and learning perspective, reflection could be seen as a relation between the teacher's current and prior awareness of the world. Critical reflection could be seen as a way of "reconstituting an already constituted world" (Marton and Booth, 1997, p. 139) through bringing about variation in dimensions related to the teacher's assumptions about the world. Critical reflection might afford change in ways of experiencing teaching if teachers reflect on assumptions which relate to the critical aspects of new ways of experiencing. The expansion of teachers' awareness described by Martin and Ramsden (1992) seems to have related to critical reflection on a number of aspects, including how teaching related to learning. However, reflection per se may not bring about change in ways of experiencing. Teachers may also reflect on improving practice within existing ways of experiencing.

Transforming teaching through reflection and action: participatory action research and teaching communities

Action research involves reflection as part of a systematic approach to teaching improvement or curriculum change (Zuber-Skerrit, 1992; Kember and Kelly, 1993; Kember and McKay, 1996; Walker, 2001) and/or as an intrinsic part of being a reflective professional teacher (Light and Cox, 2001). Like critical reflection (Brookfield, 1995; Mezirow, 1991), action research is underpinned by a critical, emancipatory perspective (Carr and Kemmis, 1983; Kember and McKay, 1996). It is explicitly focused on empowering individuals and achieving social, including educational, change. Action research involves participating teachers directly in deciding which aspects of teaching need to be improved and how to go about it. It typically involves a collaborating group of teachers, sometimes with an academic developer as a "critical friend". The "teaching communities" described by Macdonald (2001) are similar in character. Involvement in action research projects and teaching communities can result in change in university

teachers' conceptions of teaching (Gibbs, 1995b; Kember and McKay, 1996; Macdonald, 2001).

The action research project described by Kember and McKay (1996) and the teaching community described by Macdonald (2001) have a number of common features. Both involved collaborating groups of teachers in which there was initial variation in (and sometimes conflict between) the teachers' apparent conceptions of and assumptions about learning and teaching. The teachers met together over an extended period of time with a focus on systematic improvement in teaching and learning in a course or subject in which all were involved. Both focused on improving teaching and learning by understanding the effects of teaching and learning environments on students' learning. Both used research on teaching and learning to inform their understanding of teaching and learning, plan changes and evaluate their effects. Kember and McKay's (1996) used a more formal and systematic approach to data collection and interpretation, consistent with action research, but both projects triangulated between different sources of evidence, interpreted and reflected on the results and engaged in several cycles of action and reflection.

From a variation and learning perspective, these projects may have afforded the discernment of aspects related to student learning, acts of teaching and intentions for teaching, through enabling teachers to experience variation between their own and their colleagues' views, their own views and the views of the literature, their prior expectations of students' learning approaches and the learning approaches interpreted from evidence and so on. The focus of the collaborative discussions on the relations between teaching and learning may have created relevance structures which brought these aspects to the foreground of teachers' awareness and encouraged fusion between them.

A framework for describing the experience of change in teaching

The different literatures reviewed above point to a range of formal and informal teacher learning experiences through which teachers' ways of experiencing teaching might change. Teachers might become capable of experiencing teaching in student-focused ways through progressive reflection on different aspects of their teaching experience (Entwistle and Walker, 2002), through participation in action research projects (Kember and McKay, 1996), through formal teaching development programs based on ideas of conceptual change (Ho, 2000) or through programs involving reflection on teaching in relation to the research on teaching and student learning (Martin and Ramsden, 1992).

Not all teachers who experience these situations change their ways of experiencing. Differences in what teachers focus on in a particular learning situation, whether it is a conceptual change program or their own classroom, and how they focus on it, reflectively or otherwise, are likely to relate to differences in what they will have the capability of learning and differences in their learning outcomes.

Parallels can be drawn between differences in teachers' learning in their learning situations and studies of students' approaches to and conceptions of learning. Students' learning outcomes in a particular situation are related to the approaches they take to learning - what they focus on and how they focus on it in the situation (Marton and Säljö, 1976a). Students' approaches to learning are also related to their conceptions of learning (van Rossum and Schenk, 1984) in ways which suggest that limited conceptions of learning might limit the approaches that students are capable of taking.

The literature on university teachers' learning and development also suggests different conceptions of teacher learning which parallel some of the conceptions of student learning (Marton, Dall'Alba and Beaty, 1993). A conception of teacher learning as acquiring and applying teaching strategies relates to the limited conceptions of learning as increasing one's knowledge (acquisition) and learning as applying what has been acquired. Changes in ways

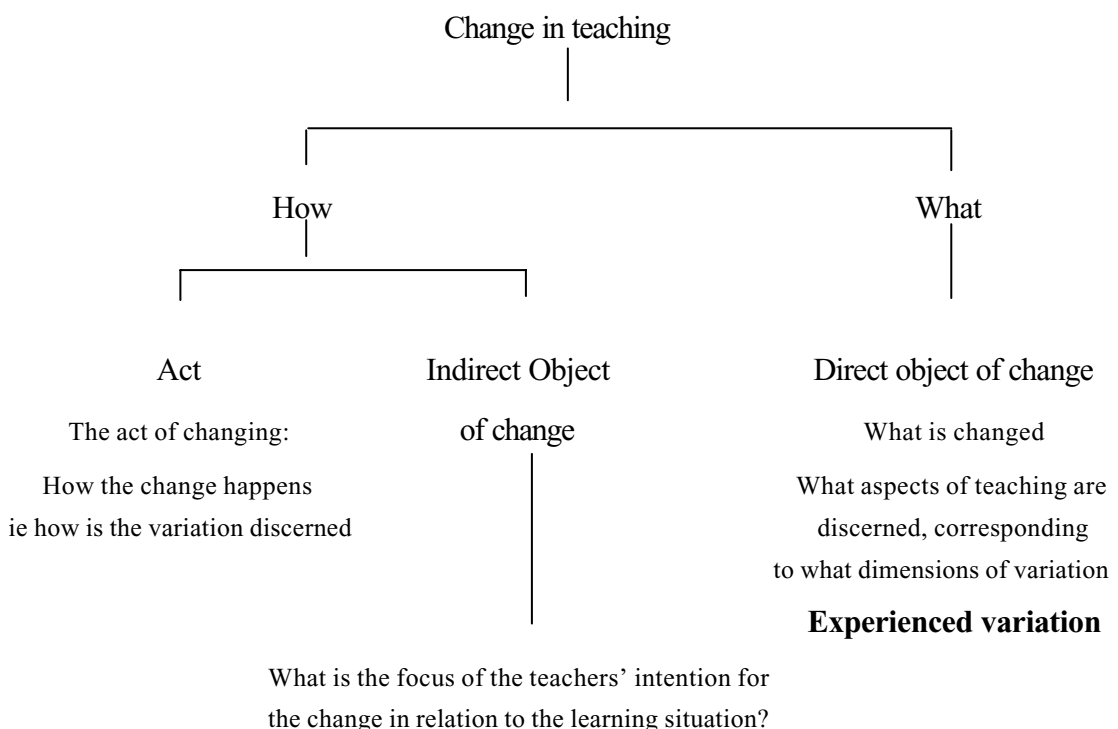
of experiencing teaching can be interpreted as relating to the more complex conceptions of learning as understanding, seeing something in a different way and changing as a person.

The relation between students' conceptions of learning and approaches to learning suggests that there might be similar relations between teachers' conceptions of development and change in teaching (Åkerlind, 2003a, Larsson, 1986) and their approaches to developing or changing their teaching. Teachers who see developing their teaching as widening their repertoire of teaching strategies with the intention of becoming more effective as a teacher (Åkerlind, 2003a) may discern and focus on strategies and skills and not discern and focus on other aspects of situations of learning. Teachers who see development or change as a change in outcomes for the learner (Åkerlind, 2003a) or as changing the focus of attention from the teachers' acts or planning towards the students acts' or thinking (Larsson, 1986) may discern and focus simultaneously on how they are teaching and how and what their students are learning, with the intention of improving learning (and also teaching). This suggests that teachers' conceptions of development and change relate to the relevance structures that they experience in situations of learning about teaching. Teachers' ways of experiencing *change in teaching* might relate to whether and how they become capable of experiencing teaching in student-focused ways.

Change in teaching, like teaching itself, can be seen as an intentional phenomenon in which acts of change are directed towards certain intended outcomes and focus on certain aspects of teaching. This suggests that *ways of experiencing change in teaching* could productively be analysed using a similar analytic framework to that for ways of experiencing teaching. Figure 3.1 shows such a framework. This framework shows possible relations between the act, indirect object and direct object of a way of experiencing change in teaching, the relevance structures that teachers will experience in a situation of teacher learning and the aspects and dimensions of variation which will be discerned and focused on. What teachers change in their teaching is related to what they focus on and how they focus on it, in situations which have particular relevance structures which relate to their intentions for change.

The *what* aspect of the experience of change in teaching is the direct object of the change - the aspect or aspects of teaching on which the change focuses and the relations between them. It reflects the aspects of teaching on which variation is brought about in the teacher's awareness. It would be reasonable to suppose that changes in teaching could only relate to the aspects of teaching and relations between them of which the teacher was aware, so there would be a relation between this direct object and how teaching itself was experienced.

The *how* aspect of the experience of changing teaching relates to the act or acts related to experiencing a change in teaching and the indirect object at which these acts are aimed. The acts here are not the acts of teaching, but are acts which bring about awareness of variation related to some aspects of teaching. Acts of change in teaching might include reflecting, comparing experience with perspectives from the literature, observing a colleague's teaching or trying out something new. The same act may relate to different direct and indirect objects.



Experienced relevance structure

Figure 3.1 A framework for analysing teachers' experience of change in teaching

For example, teachers may reflect on differences in students' understandings with the intention of bringing about more complex understandings, or may reflect on the colours of PowerPoint slides with the intention of choosing colours which capture students' attention. The act aspect of experiencing change in teaching also has a temporal dimension. Teachers become aware of a need to make a change, plan an intended change and then enact the change. Review of the change may create an awareness of a further need for change and so on.

The indirect object of the act relates to what the teacher is aiming towards or seeking to realise through changing teaching. This relates to the relevance structure that the teachers experience in situations for learning about teaching or applying what they have learned. Teachers with different intentions will perceive different relevance structures when they encounter a situation of learning or application. The same act of change may also relate to different indirect objects. For example, reflecting on feedback from students may have an indirect object of understanding how to relate teaching to students' learning but may also have different indirect objects or intentions such as improving students' liking of the teacher or teaching, seeking evidence for promotion or satisfying external demands for teacher accountability.

To summarise the perspectives from the literature described in the previous section, each focuses on some aspects of the act, the direct object and the indirect object of change in teaching, but none focuses on the internal relations between these from a non-dualist perspective on change in experience. Using a relational framework for analysing these internal relations might enable a more complex understanding of how some teachers change their ways of experiencing teaching and why other teachers in similar situations do not.

Chapter summary

The literature reviewed in this chapter suggests that changes in university teachers' ways of experiencing are possible, but that they require that teachers have particular kinds of learning experiences. The theory of variation and learning offers a theoretical framework for illuminating the critical features of learning situations which afford change. From a variation and learning perspective, experiences which are related to change in ways of experiencing teaching will need to take place in situations which afford the experience of the critical aspects of student-focused ways of experiencing teaching and which have relevance structures which focus teachers towards these aspects so that they can be discerned.

The literature on teacher learning, development and change suggests that differences in the focuses that teachers take when seeking to learn about or develop their teaching, the availability of strategies, theoretical insights, contrasts between different ways of experiencing, and particular kinds of individual and/or collaborative critical and informed reflection may all be important in bringing about change in ways of experiencing. However, we need to know more about how these features interact with each other in teachers' learning situations to enable teachers to become aware of the critical aspects of student-focused ways of experiencing teaching and see it as possible to teach in a student focused way in their classes. This is particularly important if we consider that much teacher learning takes place informally in the workplace, even when teachers are also involved in formal programs which have the intention of changing their understandings (Ho, 1998, 2000; Halliday & Soden, 1998; Andresen, 1995).

This study aims to contribute to our understanding of how university teachers change their ways of experiencing teaching, by focusing on the relations between teachers and their situations of learning about teaching and applying their learning. Understanding the situational features and teacher focuses which afford change in ways of experiencing might enable us to encourage change both through informal learning in the workplace and in formal teaching development programs. Chapter 6 of this thesis describes the critical experiences and teacher orientations which relate to change in teachers' ways of

experiencing teaching, chapter 7 describes the variation in teachers' experiences of change in teaching and chapter 8 brings these together with teachers' experiences of teaching to describe patterns which distinguish teachers whose ways of experiencing become student-focused from those whose ways of experiencing remain teacher-focused.

The next chapter describes the approaches and methodologies I employed for researching teachers' ways of experiencing teaching and change in their ways of experiencing.

Chapter 4

Methodologies for researching variation and change in ways of experiencing

This chapter describes the research approaches I have taken and why they are useful for looking at variation and change in the ways in which university teachers experience teaching. As described in the previous chapters, most of the relational research on university teachers' conceptions of teaching and approaches to teaching has been undertaken using phenomenographic approaches. Phenomenography is a research approach which is fundamentally concerned with variation and experience. This study draws on phenomenography as a research approach for most parts of the study and as a point of departure for the remaining parts, so this chapter begins with an overview of phenomenography as a research approach, the major criticisms of this approach and some ways of addressing these criticisms. The chapter then moves to a more specific description and discussion of the phenomenographic and related approaches that I took in conducting this study.

From “classical” to “new” phenomenography – a tradition of research into variation and experience

Phenomenography began as qualitative empirical research approach at a time when quantitative approaches were dominant in educational research (Sandberg, 1997; Svensson, 1997). It had its origins in research in the 1970s at the University of Göteborg, which began to look at learning from the perspective of the learners. It began by focusing on the question of why some people are better at learning than others (Marton, 2000) but

pursued that question in ways which were distinctive and unusual for that time. Early studies focused on the different ways in which students understood a text which they had read and how these different ways related to the ways in which students went about the reading task (Marton and Säljö, 1976a). Students understood the text in a limited range of qualitatively different ways which were related to the approach they had taken. Both the identification of deep and surface approaches to learning, and the distinctive research approach used to identify them became particularly influential. The research approach was later called *phenomenography* (Marton, 1981, 1986, 1994). The word is said to derive from the Greek *phainómenon* or *fainemonon*, meaning *that which is appearing* and *graphein* meaning *description* (Marton and Booth, 1997; Hasselgren and Beach, 1997). Research which is undertaken from a phenomenographic perspective aims to describe variation in ways of experiencing, conceptualising, understanding, comprehending or seeing⁴ particular phenomena.

Since these original studies, phenomenographic research approaches have been widely used, particularly in educational contexts. According to Alexandersson (1994, cited in Sandberg, 1997) in its first two decades phenomenography had been used in more than 1000 studies and 50 doctoral theses. The number would have grown considerably since this statement was made. Many studies have focused on variation in ways in which school or university students understand abstract disciplinary concepts such as price in economics (Dahlgren, 1984; Pong, 1999); motion and frames of reference in Physics (Bowden et al, 1992), recursion in programming (Booth, 1997; Marton and Booth, 1997) and information systems (Cope, 2000). Others, as we have seen in chapters 2 and 3, have focused on conceptions of learning (Marton, Dall'Alba and Beaty, 1993) and teaching (Dall'Alba 1991; Martin & Balla, 1991; Prosser, Trigwell & Taylor, 1994). Other studies have turned to the people's experiences of competence in their work as Volvo engine optimisers (Sandberg, 1994), clerical administrative workers (Gerber and Velde, 1996) or neonatal nurses (Davey, 2002).

⁴ The expressions “way of experiencing”, “conception”, “way of understanding” etc are usually taken to be synonymous (Marton and Booth, 1997). I have chosen to use the term “way of experiencing” teaching for the specific reasons describe in chapter 2.

The theoretical and methodological underpinnings of phenomenography began to be articulated by Marton (1981, 1986) in the late 1970s and early 1980s, influenced by Husserlian phenomenological philosophy (Husserl, 1952/1980) and later by Gurwitsch's (1964) ideas on the nature of human awareness. More recent writings (Marton and Booth, 1997; Marton and Pang, 1999; Pong, 1999) have focused more specifically on epistemological and ontological assumptions underpinning the status of ways of experiencing and how these relate to individuals' learning about the world. They have sought to describe the nature of ways of experiencing phenomena and differences between different ways of experiencing in terms of the patterns of aspects of phenomena which are in the theme of people's awareness. People become aware of aspects of phenomena through discerning variation in the dimensions corresponding to these aspects. They become aware of a new way of experiencing a phenomenon by simultaneously discerning and focusing on the critical aspects for that way of experiencing. Research which focuses on people's awareness of patterns of variation and ways of bringing about variation has become known as "new" phenomenography, following the EARLI symposium of 1999.

Classical and new phenomenography share a common focus on variation and experience and the fundamental assumption that a way of experiencing a phenomenon is an internal relation between the experiencer and the phenomenon (Marton, 1981, 1994; Svensson, 1997; Marton and Booth 1997; Marton and Pang, 1999). From this non-dualist, or relational, perspective, a way of experiencing something in the world is neither something which resides in an individual nor something in the world which is separate from the individual's experience.

A way of experiencing a phenomenon is constituted by the structure and intertwined meaning of an experiencer's awareness of the phenomenon. As discussed in chapter 2, awareness has a changing figure-ground structure. A particular way of experiencing a phenomenon corresponds to a particular pattern of aspects of the phenomenon in the theme of awareness, which dialectically constitutes a particular meaning (Marton and Booth,

1997). More complex ways of experiencing correspond to more aspects being simultaneously in focal awareness.

Phenomena are always experienced as embedded in situations, but transcend particular situations (Marton and Booth, 1997). An individual's focal awareness of a phenomenon may vary in relation to different situations if the individual perceives these situations in ways such that different aspects of the phenomenon become focal or recede to the background (Pong, 1999). A way of experiencing is therefore relational in two senses: in the sense of it being a relation between the experiencer and the phenomenon and in the sense that the same experiencer may experience the phenomenon in different ways in relation to different situations.

The perspective taken by the classical phenomenographic researcher is known as a second-order perspective, focusing on how phenomena are experienced by others. This contrasts with the first-order perspective of how phenomena appear to the researcher. In classical phenomenography, the object of study is the qualitatively different ways in which the phenomenon is experienced by others. The researcher discerns and constitutes the variation between these different ways of experiencing. This is now described as the first face of variation (Marton and Pang, 1999; Pang, 2002).

There is some variation in methodology between different classical phenomenographic studies and, as Bowden (2000a) points out, this would be an interesting topic for phenomenographic research. Five kinds of study have been distinguished according to the type of data they investigate, the ways in which that data is collected and the types of assumptions that the researchers appear to consider or leave unexplored (Hasselgren and Beach, 1997). A very common kind is discursive phenomenography which involves interviewing people in ways which focus on their experience of the phenomenon of interest and transcribing the interview. The analysis then involves:

- analysing the interview transcripts (or other forms of data) through an iterative, comparative process to discern the range of variation in ways of experiencing the phenomenon;
- constituting categories of description which capture the critical features of these different ways of experiencing; and
- constituting an outcome space which describes the internal relations between these categories.

The processes of analysis are iterative and involve constant comparison, similar to grounded theory (Glaser and Strauss, 1967; Strauss and Corbin, 1998) but with the focus on constituting patterns of variation in ways of experiencing the phenomenon. The three aspects of the process noted above are not carried out sequentially; rather there is movement between them.

While classical phenomenography focuses on the first face of variation, new phenomenography focuses on the second face – variation as experienced by the experiencers. This reflects a shift in phenomenography towards ontological concerns (Marton and Pang, 1999; Pang, 2002). New phenomenography focuses on describing the nature of ways of experiencing in terms of the experiencer's awareness of critical aspects and corresponding dimensions of variation.

Studies which come from this new branch of phenomenography typically differ from classical studies in aspects of their methodologies, with many focusing on recording teaching in classrooms. Transcripts of teaching sessions are then analysed with a focus on the patterns of variation that are opened for learners to experience (Runesson, 1999; Rovio-Johansson, 1999; Marton and Tsui, 2003). These new studies move away from the second-order perspective, in that the researcher discerns the patterns of variation which are available to be experienced, rather than those which are experienced by the learners (Runesson, 1999). The methodology appears to involve a greater emphasis on close textual analysis of classroom discourse to discern the teacher's focuses and the patterns of variation and invariance (Rovio-Johansson, 1999; Runesson and Marton, 2002).

Some other recent studies have taken approaches which combine the interviewing and comparative constitution of categories of classical phenomenography with an additional focus on analysing the dimensions of variation experienced by the interviewees in relation to particular situations (Pong, 1999). My study fits best with this combined phenomenographic approach.

Reasons for choosing phenomenography as a research approach for this study

Phenomenographic research focuses on understanding different ways of experiencing phenomena. Different ways of experiencing afford different capabilities of acting in the world, some of which are more powerful, complex or inclusive than others (Marton and Booth, 1997). While phenomenography has not been extensively used for studies of change, Johansson, Marton and Svensson (1985) argue that because it focuses on different ways of experiencing a phenomenon and the relations between these, it offers a useful framework for investigating changes between ways of experiencing.

Phenomenography was chosen as a research approach for this study for three primary reasons:

1. The focus of phenomenographic research on variation in ways of experiencing particular phenomena was consistent with the focus of this study on variation and change in university teachers' ways of experiencing teaching. The classical phenomenographic approach enabled me to address such questions as "what is the variation in the ways in which university teachers experience teaching?" and "what is the variation in ways in which they experience change in teaching". These questions are not focused on the nature of teaching, or of change in teaching, but on variation in how these are experienced by teachers in relation to their teaching situations.

New phenomenography, which focuses more specifically on the nature of ways of experiencing in terms of the experiencer's awareness of variation (Pang, 2002), offers considerable potential for investigating change in ways of experiencing. From this perspective, change from one way of experiencing to another can be described in terms of a change in the structure of the experiencer's awareness. The difference between one way of experiencing and another can be defined in terms of differences in the patterns of aspects of which the experiencer is aware, with each pattern of aspects corresponding to a pattern of discerned dimensions of variation. Learning experiences can then be designed which afford the experience of the critical patterns of variation (Pang and Marton, 2002). This focus on experienced variation and its relation to learning is particularly appropriate for a study which seeks to inform ways of bringing about teacher learning.

2. I saw it as important to maintain theoretical and methodological coherence with previous research on relations between teaching and learning in higher education. Much of the research on teachers' conceptions of and approaches to teaching and students' approaches to learning is underpinned by phenomenographic approaches. As I anticipated that this study would contribute to this field of research, I sought to use a common research approach underpinned by a coherent theoretical position on the non-dualist nature of experience and a set of coherent methodological positions focused on understanding experience from the perspective of the experiencer.

3. When one of the intentions of research is to make use of the findings for improving practice, it becomes relevant to consider pragmatic criteria in choosing an appropriate research approach. My own interest in phenomenography has much in common with the developmental interest described by Bowden (1995, 2000a). My interest is in both the pure research aim of phenomenography - to understand the variation in the ways that university teachers experience some aspects of their world - and the applied aim - to inform teaching development practices.

I also perceived that there was pragmatic value in using a research approach which emphasised university teachers' ways of experiencing. Academic developers frequently find themselves working with lecturers who distrust the findings of educational research or reject them as irrelevant to their own teaching contexts and experiences. Keith Trigwell (2000) expresses this well when he reflects on his own reasons for adopting a phenomenographic approach:

I don't come from a social science research background. I was – and many of my colleagues still are – very sceptical of the value and validity of much of the educational research we were exposed to as neophyte science lecturers. To put it crudely, it seemed to us to be based on the results of laboratory experiments rather than on the experiences of the people involved... (p. 65)

Phenomenographic research has previously informed academic development activities which aim to change university teachers' conceptions of teaching, in part through raising their awareness of variation in conceptions of teaching and learning (Ho, 1998; Bowden, 1988; Prosser and Trigwell, 1997b). This study aimed to inform ways of making these activities more effective, by identifying the critical aspects of the variation which teachers need to experience.

Issues in phenomenographic research: data, interpretations and outcomes

As with all qualitative research approaches, phenomenography has been subject to critiques of its assumptions and methodologies. Most of the critique comes from a range of alternative qualitative research perspectives: socio-cultural (Säljö, 1997; Richardson, 1999), phenomenological (Ashworth and Lucas, 1998) and hermeneutic and post-structuralist (Webb, 1997). Discursive phenomenography in particular has been described as needing to give greater consideration to hermeneutic and phenomenological perspectives

(Hasselgren and Beach, 1997). The major critiques of phenomenography focus on three areas:

1. the nature and meaning of the interview data used in most, and particularly discursive, phenomenographic studies;
2. the extent to which phenomenographic research outcomes - categories of description and the structure of the outcome space - reflect the experiences of the interviewees compared with the prior experiences and prejudgements of the researcher;
3. the overall validity, reliability and generalisability of phenomenographic findings.

In the following sections, I will describe ways in which these can be considered within phenomenographic approaches, and in the process address the common critiques.

The nature of interview data

The intention of phenomenographic interviews is to focus the interviewees' awareness towards the phenomenon and bring them to reflect on it so that they can describe the ways in which they experience it as fully as possible. As Marton and Booth (1997) note, the interview may be a learning process for both researcher and interviewee, as the interviewee reflects on their experience of the phenomenon – perhaps in ways that she or he has not done before – and the researcher tries to understand as fully as possible the interviewee's ways of experiencing. The interview is a process of co-constituting awareness.

Some of the major critiques of phenomenography focus on the nature of interview data and in particular how data relates to the stated object of study – people's conceptions or ways of experiencing phenomena. One critique comes primarily from a socio-cultural perspective on language and experience, and questions the extent to which the talk that takes place in interviews relates to interviewees' ways of experiencing the object of research, rather than only to the use of particular discursive practices:

In general, it would seem that the data must be understood as indicative of accounting practices-ways of talking and reasoning-that interviewees, for one reason or another,

find appropriate when being asked questions. Very little, if anything, is gained in analytical terms by an initial commitment to a position in which the researcher connects utterances to experiences rather than to discourse, since the latter is what is in fact analysed. (Säljö, 1997 p. 173)

While Säljö (1997) agrees that language and experience are intertwined, he argues for the primacy of language in constituting experience, and is concerned that phenomenographic researchers may be too ready to infer meaning from particular ways of talking. In making his critique he refers in particular to studies of students' conceptions of abstract academic phenomena which may have little meaning in their lifeworlds. Studies of teachers' ways of experiencing teaching could be seen differently, as they are connected with their everyday experience of practice. Rather than being constituted only through discourse, it could be argued that some aspects of teachers' experience are constituted through sensory and physical experiences of observation and practice.

While I take Säljö's point that what is analysed is indeed transcribed discourse, I believe there is something to gain in assuming connections between teachers' interview accounts of teaching and their ways of experiencing teaching in their worlds. Since my intention is to make use of the findings of this study for educational purposes, it is necessary for me to make some assumptions about these connections. In doing this, I will also address the issue of discerning meaning from modes of expression, and a second critique which is concerned with the extent to which phenomenographic interviewing sufficiently engages with the lifeworlds of the interviewees, rather than the prejudgements of the researcher (Ashworth and Lucas, 1998; 2000; Webb, 1997; Richardson, 1999).

Interviews are social encounters of a particular kind with particular forms of discourse, but they are focused towards the interviewees' descriptions of their way of experiencing particular phenomena. My argument is that interview accounts do reveal aspects of the interviewees' experience of the phenomena that they describe. However, they may not reveal the whole of that awareness. I have found the conceptual framework developed by Prosser and Trigwell (1999) for learning and teaching to be useful for considering the

outcomes of an interview. Applying this framework, the outcomes of an individual interview can be related to three aspects of the interviewee's experience: the interviewee's experience of the phenomenon; the interviewee's perception of the interview situation and the interviewee's approach to the interview. As the interview situation is itself a relation between the researcher and interviewee, these aspects are related to the ways in which they co-constitute the interview situation.

The first aspect relates to the object of research - interviewees' ways of experiencing the phenomenon - but also to the interviewees' capacity to articulate their experience in the interview situation. According to Marton and Booth (1997), the aim of the interview is to bring the interviewee to a state of meta-awareness in which she is able to reflect on her awareness of the phenomenon at a deep level, including reflecting on aspects which may previously have remained tacit. The task of the researcher is to achieve "empathy and engagement" (Ashworth and Lucas, 2000, p. 295), so that the interviewee is given the maximum opportunity to reflect on her own experience and feels comfortable in talking about all of the aspects of the phenomenon of which she is aware. The researcher needs to be able to probe and interpret the meanings that the interviewee intends to describe through their utterances, as similar expressions may have different meanings for different interviewees. This co-constitution of meaning may also prompt reflection on further aspects of awareness.

The second aspect is the interviewee's perception of the interview situation. This relates to the aspects of awareness of the phenomenon which are evoked in the interview. A recent study of Canadian high school students' conceptions of price has an interesting bearing on the relationship between interview contexts and the ways of experiencing revealed (Pong, 1999). Different pricing situations evoked descriptions related to different conceptions of price, with variation in different dimensions. The students often switched between these different conceptions, appeared unaware that they were doing so (Pong, 2000) and explained their ideas in terms of the features of the different situations. If students who described multiple conceptions had been asked about only one situation, they may not have

revealed aspects of practice which they were aware of in other situations. This implies that the phenomenographic researcher needs to enable people to experience variation in contexts and perspectives within the interview, bearing in mind that the contexts intended by the researcher may not be the same as those experienced by the interviewee (Adawi, Berglund, Booth and Ingerman, 2001).

The third aspect is the interviewee's approach to the interview itself, and here I will specifically refer to university teachers as interviewees. As Marton and Booth (1997) suggest, interviewees have the ability to exert power in entering into or subverting the researcher's desire to encourage full and honest reflection. University teachers may approach an interview with an academic developer about their experiences of teaching with a variety of intentions: to assist with the research; to have an opportunity to talk about their teaching with someone else; to reflect on their teaching through the process of the interview; to gain feedback on their ideas; to impress the researcher. Most of these are helpful in bringing about the meta-awareness described by Marton and Booth (1997) and Samuelowicz (1999) describes the pleasure that some of her interviewees expressed in having the opportunity to talk about their teaching. The desire to gain feedback can be handled by agreeing to focus on the interviewee's experience and negotiating deferral of researcher feedback until afterwards, or alternatively can be seen as an opportunity to prompt further reflections.

From a phenomenographic perspective, the intention to impress the researcher is problematic in some ways, but not necessarily in others. If university teachers intend to describe themselves as good teachers, their descriptions will still relate to their awareness of "good teaching". Teachers who are aware only of teacher-focused ways of experiencing teaching may describe themselves as exemplary performers (cf Fox, 1983) but not as good facilitators of learning. The issue of trying to impress becomes more problematic when the research has a focus on the interviewees' actual acts of teaching and the interviewees are aware of acts other than those which they use. A similar issue is the commonly described problem of the disjunction between espoused theory and theory in use (Argyris and Schön,

1974) or between described conceptions and claimed practices (Murray and Macdonald, 1997). The task for the researcher is to probe and cross-question sufficiently to be able to discern teachers' actual acts from those which they don't in fact use in practice.

I will describe the ways in which I took these issues into account in my study later in this chapter when I address how I went about my interviews.

The outcomes of phenomenographic research: categories of description and relations with individual experience

The outcome of a classical phenomenographic study is an outcome space which represents a set of *categories of description* and the relation between them. Each category of description is qualitatively distinct from the others, and represents a particular set of aspects of the way the phenomenon is experienced. Each category is internally related to the others, and typically the outcome space is arranged hierarchically, such that more complex and inclusive categories include the features of less complex ones. The outcome space should describe the critical aspects of the variation between different categories, but include as few categories as is necessary to do this (Marton and Booth, 1997).

While there is variation in exact methods, categories of description are typically constituted using iterative, comparative processes, similar to those of grounded theory (Glaser and Strauss, 1967; Strauss and Corbin, 1998), but with a focus on the variation in ways of experiencing the phenomena of interest *and* internal relations between these different ways of experiencing. Analysis is a process of iterating between focusing on parts and focusing on wholes in relation to the transcripts and the emerging set of categories. At different times during the analysis, the researcher's focus may be on: variation in a dimension related to a particular aspect of the phenomenon as represented in the transcripts; internal relations between aspects of different dimensions; relations between different categories; relations between the categories and the set of transcripts as a whole; relations between categories and individual transcripts (see Marton, 1994; Marton and Booth, 1997, Bowden and

Walsh 2000; Åkerlind, 2002). Changes in perspective between these focuses continue until the structure and meaning of each of the categories and the relations between the categories have stabilised.

In describing the process of phenomenographic analysis, Marton and Booth (1997) note:

All of the material that has been collected forms a pool of meaning. It contains all that the researcher can hope to find, and the researcher's task is simply to find it. This is achieved by applying the principle of focusing on one aspect of the object and seeking its dimensions of variation while holding other aspects frozen. The pool contains two sorts of material: that pertaining to individuals and that pertaining to the collective. It is the same stuff, of course, but it can be viewed from two different perspectives to provide different contexts for isolated statements and expressions relevant to the object of research. (p. 133)

A category of description is not the same as an individual's way of experiencing the phenomenon (Marton and Booth, 1997). There are two main distinctions. Firstly, categories of description are constituted by the researcher in relation to the *collective* pool of meanings in the transcripts as wholes or the parts of the transcripts which refer to the phenomenon. Secondly, a category of description describes *the critical aspects* of a way of experiencing the phenomenon which distinguish it qualitatively from other ways of experiencing. A category does not describe all of the aspects of the phenomenon of which an individual who describes that ways of experiencing may be aware. An individual's awareness may encompass aspects related to multiple categories, perhaps with some being in focal awareness in one situation and others in focal awareness in another.

Some of the critiques of phenomenography (for example Ashworth and Lucas, 1998) are concerned with the abstraction of categories of description from the richness of the lived experience of the people who are interviewed. These critiques typically are informed by other research approaches like phenomenology, which focus on rich contextualised descriptions and interpretations of individual experiences rather than qualitative variation in *ways of experiencing a phenomenon* of interest. Phenomenography does not ignore

individual experience; rather it makes figural the parts of individual experience which relate to the structure or meaning of the phenomenon as experienced, while allowing other parts to recede to the ground.

Other critiques of phenomenographic research outcomes (Webb, 1997; Richardson, 1999) are concerned with the extent to which the categories of description relate to the ways of experiencing described by the people who are interviewed, rather than the pre-conceptions of the researcher. This appears in part to be a misreading of the rigorous processes of phenomenographic research, but there have been related discussions within the phenomenographic research community about the extent to which categories are constructed by the researcher or discovered in the data (Walsh, 2000). The construction view suggests that the researcher may impose pre-existing ideas about structural relationships between categories on the data. It is this perception that has been most strongly critiqued as representing researcher bias, or as potentially ignoring aspects of the interviewees' experiences because they do not fit the structure (Bowden, 1995; Webb 1997; Ashworth and Lucas, 2000). On the other hand, the discovery view suggests that the categories exist in the data and are found through the analytic process, implying that another researcher using the same processes would find the same set of categories. This view discounts the interpretive character of qualitative research in general, and the non-dualist ontology which underpins phenomenographic research.

The alternative to both the construction and discovery views is the view that the categories are constituted by the researcher in relation to the data (see for example Sandberg, 1997; Cope, 2002). This is consistent with a non-dualist perspective on awareness, such that interpretations are internal relations between the researcher and the phenomena as they appear in the data. In this study, I see the categories of description as constituted by me as the researcher in relation to the aspects of the objects of research which were expressed in the interviews and then represented in the transcripts. I agree with Sandberg (1997) when he says:

as the researcher is a human being, he/she is always intentionally related to the research object. As the researcher cannot escape from being related to the research object, the categories of description are always the researcher's interpretation of the data obtained from individuals about their conceptions of reality. In other words, the categories of description are intentionally constituted through the researcher's interpretation (p. 208)

As a consequence of this, Sandberg (1997) argues for the need for the researcher to maintain interpretive awareness. This is a reflexive process whereby the researcher constantly checks any potential interpretations against the data itself, and maintains a critical awareness of her prior knowledge at all stages of the research process from the practice of the interview through to the constitution of categories of description and the outcome space. Throughout the research process, the researcher is constantly reflecting on whether interpretations relate to the experiences of the interviewees and not simply to the researcher's prior experience. Maintaining interpretive awareness is one approach to addressing the reliability and validity of phenomenographic research, and I will now turn to these issues.

Questions of validity, reliability and generalisability

In psychometric research, reliability usually refers to the consistency or replicability of the findings, validity to their correspondence to an external reality and generalisability to their transferability to other, similar populations or contexts. Some of the most common critiques of qualitative research in general and interview-based research in particular have been concerned with these issues (Kvale, 1995). Phenomenographic research is not unconcerned with these issues, but they can be considered in relation to different criteria. Different kinds of knowledge claims imply different criteria for validating these claims. The concepts of validity, reliability and generalisability have been argued to be grounded in positivist, objectivist views of knowledge and therefore to be inappropriate to interpretivist or postmodern approaches to social science enquiry (Lincoln and Guba, 1985; Peshkin, 1993; Seale, 1999). Alternative concepts such as credibility, transferability, dependability

and confirmability (Lincoln and Guba, 1985) and authenticity (Guba and Lincoln, 1989) have been proposed, and while these derive from different conceptions of knowledge and “truth” they reflect similar concerns with the quality of research and the kinds of knowledge claims that can be made by researchers.

Despite these alternatives, discussions on phenomenographic research typically refer to the traditional concepts of validity, reliability and generalisability (Sandberg, 1997; Bowden and Walsh, 2000; Cope, 2002; Åkerlind, 2002). In the following section, I describe how the concepts of validity, reliability and generalisability can be considered in relation to phenomenographic research, referring in particular to the arguments offered by Kvale (1995, 1996) in relation to qualitative research in general, and Sandberg (1997) in relation to phenomenographic research in particular.

Reliability, in the sense of the independent replicability of a study or retesting of a group of people, is inconsistent with the relational constitution of categories and the dynamic nature of awareness. Reliability in phenomenographic research is typically addressed in one of three ways, each of which also addresses aspects of the traditional formulations of validity. Several researchers involved in a project may independently constitute categories from the same data pool, coming together to compare their categorisations, argue for their constitution, re-check them against the data and then re-constitute the set collectively or independently until agreement is reached (Trigwell, 2000). Alternatively, an individual researcher may constitute the set of categories and then be questioned by others and required to argue for the constitution in relation to the evidence in the transcripts (Dunkin, 2000). The third way involves independent judges categorising transcripts with reference to the categories of description (Marton, 1986).

Sandberg (1997) argues that interjudge reliability is inconsistent with the relational character of phenomenographic research, and suggests interpretive awareness as an alternative. In maintaining interpretive awareness, the researcher needs to “demonstrate how he/she has

dealt with his/her intentional relation to the individuals' conceptions being investigated" (p. 209), in order to deal with her or his own subjectivity.

Like Cope (2002), I see interpretive awareness as relating to aspects of both the reliability and validity of the research. The idea of interpretive awareness differs from the bracketing of prior awareness (Ashworth and Lucas, 2000). It recognises that from a non-dualist ontological and epistemological perspective, researchers cannot bracket all of their prior experience but can endeavour to maintain a critical awareness of how their subjectivity may influence the research. Maintaining interpretive awareness involves five steps (Sandberg, 1997, p. 210):

- Remaining "oriented to the phenomenon as and how it appears throughout the research process";
- Describing experience, rather than explaining it;
- Treating all aspects of individuals' descriptions as equally important;
- Searching for the meaning structure of the experience, using "free imaginative variation";
- "Using intentionality as a correlational rule" by focusing on the what and how of the individuals' experience and the internal relations between the what and how.

Rather than focusing on external relations between judges or measures, interpretive awareness therefore focuses on reliability in terms of the internal relations between aspects of the phenomenon as it appears to the researcher. The five steps are also forms of validity checking, being concerned with the extent to which the research outcomes reflect the ways in which the research participants experience the phenomenon of interest.

Kvale (1995) outlines three different approaches to considering the validity of qualitative research findings: validity as a quality of craftsmanship (sic), communicative validity and pragmatic validity. Validity as quality of crafting focuses on the continual questioning and checking of the research at all stages of the process (Kvale, 1995) and as such has much in common with Sandberg's reliability as interpretive awareness (1997).

Communicative validity extends the idea of validity beyond the researcher's critical crafting and interpretive awareness. Validation is seen as inter-subjective, occurring through dialogue with relevant others in which researchers argue for their interpretations (Kvale, 1995). In academic research, the other parties in the dialogue are typically members of the community of scholars in the same field. Considering communicative validity in phenomenographic research includes providing adequate quotes to illustrate the structure and meaning of categories of description which have been constituted in relation to a much larger pool, and communicating the processes through which the categories have been constituted (Entwistle, 1997). While this is important, from a non-dualist perspective it is also important to acknowledge that alternative interpretations could be constituted and argued by others in relation to the same complete pool of data.

Pragmatic validity is assessed by looking at whether interpretations are accompanied by action or lead to future action, or whether interventions based on them lead to desired outcomes (Kvale, 1995). For researchers seeking to use the findings of their studies for educational purposes, pragmatic validity has a particular appeal. It is consistent with the developmental interest of phenomenography (Bowden, 1995, 2000a) and implies considering the credibility of the researcher and the concerns of the people whose actions the research seeks to change. In educational contexts, pragmatic validity can be assessed by researchers using the findings in their own educational contexts and evaluating the outcomes.

As far as generalisability is concerned, phenomenographic research makes claims about the ways in which a phenomenon is experienced by a particular group of people in relation to a particular study context. This range of ways is seen as one possible subset of the overall range of ways in which the phenomenon in question can possibly be experienced, given the character of the phenomenon in itself and the limitations of human awareness (Marton and Booth, 1997). Research generalisability can be seen as involving two sides, the original researcher and those who seek to make use of or build on the research. The researcher needs to make the context of the study and the characteristics of participants involved

explicit, so that others can make a judgement about the applicability of the findings to their own contexts. This kind of generalisability is consistent with the idea of pragmatic validity, in the sense that both are determined to a considerable extent by the end users of the research.

In my study, I have sought to address the issues of reliability and validity by using Sandberg's formulation of interpretive awareness, and will describe how I did this in the sections on analysis later in this chapter. Like Patrick (2000), I found Sandberg's arguments convincing and particularly relevant for postgraduate students involved in individual rather than team-based research. However, I also used other processes which I saw as consistent with the pragmatic intention of my study. Communicative validity was sought by presenting conference papers (McKenzie, 1995; 1996; 1999; 2001; 2002b) and seminars, and through discussions with supervisors, colleagues and other doctoral students engaged in phenomenographic research. Pragmatic validity has been sought by making use of the developing outcomes with university teachers in my Graduate Certificate in Higher Education Teaching and Learning classes. An example of one way in which I do this is described in chapter 9.

Approaches to this study

In this section I will describe the specific ways in which I conducted the study, the positions I have adopted in relation to a phenomenographic research approach and the points of departure that I have taken for analysing individuals' ways of experiencing and themes related to change in ways of experiencing.

Overall, the research involved a longitudinal, discursive phenomenographic study, focused on change in university teachers' ways of experiencing teaching. I interviewed participating university teachers three times over a two-year period: once at the beginning of a teaching year, a second time at the end of that year and a third time at the end of the following year.

A longitudinal study was chosen because of my focus on change in ways of experiencing over time, and the two year time frame (rather than longer) was chosen because I sought to fit both a pilot phase and a second phase of data collection within the approved timeframe for part-time doctoral research. Twenty-two teachers were interviewed all three times, with a further five interviewed only twice. The interviews were transcribed verbatim. A complex series of analyses were then used to constitute the interpretations described in chapters 5 to 8 of this thesis.

In the following sections, I will describe my approaches to each part of the study, from the selection of teachers to participate through interviewing, transcription and iterative analyses and interpretation, including the ways in which I sought to maintain interpretive awareness at each stage.

Selection of teachers to participate in the study

Teachers were chosen from the university where I worked as an academic developer, a city-based technological university with a strong focus on practice-based professional education. It enrolls around 26,000 students, with almost half being enrolled part-time. It has nine academic Faculties, with Business being by far the largest, followed by Engineering. Although it is a university of technology, it offers undergraduate, postgraduate and research degree programs in a wide range of professional and disciplinary areas including Humanities and Social Sciences, Communications, Media Studies, Law, Design, Nursing, Leisure and Tourism Studies, Education, Information Technology and Applied Sciences. It is not a traditional research university, but seeks to extend its research profile, focusing in particular on applied and industry-linked research. The university employs approximately 900 full-time academics, and a very large number of part-time (casual) teachers. While I use the term “teachers” in this study, most of those who participated were full-time academics who were also expected to do research and engage in service activities.

Teachers were selected using a modified form of theoretical sampling (Strauss and Corbin, 1998) according to the two main criteria: selecting those who were involved in contexts which could relate to changes in ways of experiencing teaching, and maximising the potential range of initial variation in ways of experiencing teaching. The two-year longitudinal time frame meant that consideration was given to selecting teachers who were likely to be accessible over that time. Overall, I sought to interview 25-30 teachers initially for the full study, to allow for at least 15-20 to remain in the study for the full two years. Fifteen teachers was seen as a reasonable number likely to achieve theoretical saturation of the range of variation (see for example Strass and Corbin, 1998; Kvale, 1996), and it was expected that some would drop out before the third interview.

Contexts which could relate to change in ways of experiencing teaching were considered as a starting point because of the study focus. By including teachers who were involved in contexts which potentially afforded change, I could encourage them to reflect on their experiences in these contexts and in other contexts which they saw as influencing their teaching, with the aim of identifying critical themes in the features which related to change. As the study involved both a pilot group and a second group of teachers, the second group were selected to widen the range of teachers, focusing on selecting from groups unrepresented in the pilot. Interviews from both groups were considered together for most of the analyses.

One of the starting points for choosing contexts which might relate to changes in ways of experiencing teaching was a Graduate Certificate in Higher Education Teaching and Learning (GCHETL). This is a formal course in university teaching undertaken over one year part-time, which requires that participants be teaching concurrently with their enrolment. The course shares a set of values with those described by Martin and Balla (1991) for their course at a different university and those put forward in Ramsden's *Learning to Teach in Higher Education* (1992). It encourages participants to reflect on the relations between their teaching and their students' learning and develop student-focused conceptions of teaching and learning which encourage high quality student learning

(see Ramsden, 1992; Gibbs, 1992; Laurillard, 2002; Marton, Hounsell and Entwistle, 1997). Course participants typically have multiple opportunities to experience variation in conceptions of and approaches to teaching: through workshops, readings, discussion with peers and course teachers, interviews with students and negotiated projects. Teachers' project work, discussions and course evaluations suggested that many participants did change or broaden their ways of experiencing teaching, but this wasn't the case for all. Course participants were therefore an obvious group from which to choose teachers to include in the study.

Another context which may relate to change was that of being new to the university. Boice's (1992) studies of new faculty as teachers found that some, the "quick starters", rapidly seemed to become more student focused and comfortable with their teaching while others began and remained as "facts and principles lecturers". In Martin and Ramsden's (1994) longitudinal study of academics involved in courses for new appointees across 10 Australian universities, some teachers reported more inclusive student-focused approaches by the end of their first year but others reported approaches which were more teacher-focused than they were at the beginning. New teachers were seen as a group where there was potential for change in either direction.

Maximising the range of variation in participating teachers involved considering teacher characteristics and contexts which might relate to different ways of experiencing, while not presuming this to be the case (Ashworth and Lucas, 2000). Existing studies of orientations towards teaching suggest possible differences related to discipline area and undergraduate compared with postgraduate teaching (Samuelowicz and Bain, 2001). The range of developmental perspectives on teachers' conceptions (Fox, 1983; Kugel, 1993; Sprague and Nyquist, 1991) suggested that teaching experience might have an effect for some teachers although by no means all. Taking these findings into account, I tried to ensure that I included university teachers from a wide range of discipline areas with a range of levels and types of teaching responsibilities and a range of experience where possible. I also

sought to have reasonably equal numbers of women and men, not through assuming gender differences but to acknowledge this as a possibility (Hazel, Conrad and Martin, 1997).

The pilot group

As the GCHETL was one source of potential participants, I approached the 10 teachers who formed the 1994 course cohort to participate in the pilot stage of the project and all 10 agreed. The group included three women and seven men teaching a range of discipline areas. Four were from four different social science disciplines, three from different branches of Engineering, and three from three different science areas. They ranged from tutors with only one or two years' experience to a lecturer beginning her first academic appointment to a senior academic with over 25 years teaching experience. While this group was initially considered as a pilot group, their interviews were of sufficient quality to integrate them into the overall group. Nine of this group of 10 teachers remained in the study until the third interview. Initial analyses of the first two interviews from the pilot group were carried out before selection of teachers for the second group. These early analyses suggested a range of variation in ways of experiencing teaching, but no teachers described their teaching in ways similar to the least complex ways of experiencing found in previous studies and dominating in some studies (for example Trigwell, Prosser and Taylor, 1994). Consideration was given to this in choosing the second group, with new academics being included.

The second group

The second group of teachers was selected in 1995. Ten teachers who were new to UTS and who had come to at least part of the induction program offered for new academics by the Academic Development Unit, but who were not doing the GCHETL, agreed to participate. These teachers were from eight different discipline areas, and included teachers with very little prior experience of teaching. To widen the range of variation in contexts and teachers further, the second group also included teachers undertaking a Graduate Certificate in Learning and Technology. These teachers were a more experienced group

and were from humanities, media and health disciplines which were not represented in the mainstream GCHETL. All four teachers undertaking this course initially agreed to participate but one withdrew due to illness before the first interview. The second group also included six participants from the 1995 GCHETL, chosen to include more women and lecturers from different disciplinary backgrounds. Two further teachers who were invited chose not to be interviewed, saying that they needed the time for lecture preparation. Overall, the second group included 19 teachers who participated in the first interview, from 20 who initially agreed. This included ten women and nine men, from 12 different discipline areas.

The overall group

Overall, taking the two groups together, participants in the study included 29 teachers who participated in the first interview, from 30 who initially agreed. They included 16 men and 13 women, from 18 different discipline areas ranging from Physics and Chemistry to Biology, Engineering, Economics, Law, Management, Social Sciences, History and Cultural Studies. Their prior teaching experience ranged from none at all to more than 25 years, and they had responsibilities ranging from tutoring only to planning, co-ordinating and teaching in their own subjects and having a significant leadership role in the design of the degree program.

Of the 29 teachers who were initially interviewed, 27 were interviewed a second time. One declined to be interviewed again and another was unable to be contacted. Twenty-two of the teachers participated in the third interview. Of the five who dropped out, two had left the university and were no longer teaching, one had left for an overseas university and was not able to be contacted, one was on extended study leave for a year and one declined to be re-interviewed.

Constituting the data: Interviews and transcription

Interviews and transcription could be described as processes for collecting data and then representing it in written form, but from a non-dualist perspective I see them as part of the process of constituting the data for the study. I will begin with why I chose interviewing, and then describe in more detail the ways in which I went about interviewing and transcription.

William Perry's (1970) classic study of students' intellectual and ethical development over the course of four years at Harvard provides one example of how repeated interviewing over an extended time period can illuminate changes in individuals' understanding and patterns of change over time. Some studies in the phenomenographic tradition have also used multiple interviews over time (see for example Marton, Dall'Alba and Beaty, 1993; Wood, 2000), and I saw this as an appropriate approach for my focus on change in teachers' ways of experiencing. Unlike Patrick (2000), I chose not to observe the teachers. I found previous interview studies of teachers' conceptions (Martin and Balla, 1991; Dall'Alba, 1991) sufficiently revealing. Also, my own previous experience of interviewing teachers and videotaping their teaching (McKenzie and Scott, 1993) had convinced me that there was congruence between teachers' interview descriptions and their actual teaching approaches in the described situations. Martin et al's (2000) study provides additional support for this position, finding strong relations between phenomenographic interviews with teachers and observations of the teachers' practice.

In summary, participating teachers were interviewed as close as possible to the commencement of a teaching year and again at the end of that year (or at the beginning of the following year if teachers were unavailable). Teachers were then re-interviewed at the end of the following teaching year. Interviews lasted from 45 minutes to one and a half hours. The interviews were then transcribed verbatim.

Interviewing

As described earlier in this chapter, interviewing involves the co-constitution of meaning. My approach to the interviews was consistent with Entwistle's (1997, p. 132) recommendation of moving "from actions to experience, and from concrete to abstract", so that teachers could begin by describing their teaching in familiar situations before being encouraged to reflect more deeply. The questions were also designed to encourage participants to reflect on and describe their experience of teaching from a variety of perspectives, to enable them to describe their experience as fully as possible. Typical interview schedules for the initial and follow up interviews can be found in figure 4.1. The interview schedules were trialed with three teachers who were not included in the final study, and some modifications were made to questions which the trial teachers found hard to understand.

The initial interviews began by encouraging participants to choose a subject that they were currently teaching and were likely to continue teaching for the next two years. Questions then focused first on the subject context and purpose, then the teachers' acts and intentions in teaching. Questions about how teachers knew whether students were learning and what their responsibility was for student learning were intended to encourage reflection from varying perspectives, as were questions about what was satisfying and difficult or frustrating in teaching. Questions about influences on teaching in the subject and how teachers learned to teach in general were asked to explore what teachers saw as important in influencing teaching, and potentially changing their ways of experiencing.

Direct questions about the meaning of teaching and learning in general were asked at the end of the interview. The aim of this was to provide critical checking (Kvale, 1996) on whether participants' descriptions appeared consistent with those given in relation to a particular subject in the earlier parts of the interview, or whether they described different espoused ways of experiencing. Reasons for any differences between general and subject-related descriptions were explored. As I was interested in change in participants' ways of experiencing teaching, I saw it as useful to explore whether teachers may be aware of more

complex ways of experiencing than those which were evoked when describing their teaching in a particular subject.

Figure 4.1 Interview schedules

First interview

Points for participant briefing before the interview

I'm interested in how university teachers' teaching and ways of thinking about teaching change over time, so I'll be asking about how you think about your teaching, what you do in teaching and why, and about things that influence your teaching.

Different teachers have different views about teaching, and I'm interested in your views about teaching in your subject area.

It's quite likely that I'll ask questions that you haven't really thought about before and it's OK to take your time to think or to say you haven't thought about it.

It's OK to stop the interview at any time or ask me to pause the tape while you think or say something

Typical starting questions – first interview

I'd like to focus on your teaching in a particular subject first, then broaden the interview, so can you choose a subject that you think you'll probably be teaching for several years.

Prompt for some background to the subject:

What's its name, what year of the course is it in, how many students do it, how is it organised - eg lectures, tutorials, labs etc

What aspects of the subject are you responsible for teaching?

How long have you been teaching the subject?

What is the purpose of the subject?

Typical questions on experiences of teaching – all interviews

How do you go about preparing for your lectures in this subject?

Why do you do it this way?

What happens in a typical lecture?

Typical probes: why do you ...? do you prefer doing it this way? Can you give an example of that?

How do you know if a lecture has gone really well?

(“lectures” replaced with tutorials/labs/studios etc depending on the teacher’s context. If the teacher taught in more than one of these contexts, questions were asked about both.)

How would you know whether the students have learned something in this subject?

How would the students know whether they have learned something?

What do you most want students to get out of doing this subject?

Why is this important?

What do you see as being your responsibility as the teacher and the students’ responsibility in them learning this?

What gives you the most satisfaction in teaching this subject?

What are the most difficult or frustrating aspects of teaching this subject?

Questions on influences on teaching – initial interview

What kinds of things influence the way you teach in this subject?

If you wanted to make changes to your teaching in this subject, what might make it difficult?

How does your teaching in this subject compare with your teaching in other subjects?

What is it like to teach in this department/school?

How would you describe the way this department views teaching?

How did you learn to teach in the way you do?

Your personal definitions:

how would you define teaching - what does teaching mean to you

how would you define learning - what does learning mean to you

Follow up interviews

Additional participant briefing points

I'm also interested anything that has been different in your teaching over the past semester and anything which may have influenced your teaching since our last interview.

Typical starting questions – second and third interviews

Last time we talked about (subject). Were you still teaching the subject last semester? (If not, another subject was chosen and the teacher asked how it compared with the first one.)

How has it gone this semester?

Has there been anything different about this subject this semester?

What was it? Why was it different?

Questions on experiences of teaching as for first interview

Typical additional probes for teaching in lectures etc: was this any different from last time?
In what ways? What influenced this?

Questions about influences on teaching and change in teaching

Can you tell me about any things which have influenced your teaching over the past year?
What effect did they have?

A teacher that I spoke to once described an event that "hit him like a ton of bricks" and made him really rethink his teaching? Can you identify anything like that for you? What effect did it have?

Have there been changes that you have made or would like to have made this year, or intend to make next year?

Why these changes? What has influenced them?

What kinds of things make it hard to change your teaching?

Personal definitions of teaching and learning as for first interview

The order of questions, and the nature of probing questions varied with different teachers. The aim was to encourage teachers to extend their reflections as far as possible and for me to understand as far as possible the meaning of their experiences from their perspectives (Ashworth and Lucas, 2000). Probing questions tended to be refined and new ones introduced in later interviews compared with earlier ones. Probing took a variety of forms, guided by my desire to maintain the social contract of the interview (Theman, 1979) while encouraging the teacher to engage in the sometimes uncomfortable process of reflecting on previously unreflected on aspects of their teaching (cf Marton and Booth, 1997). I found it particularly useful to reflect back the teachers' words then ask for extension or clarification. Examples included "when you said (repeat back the teacher's words) ... what did you mean by ...?" or "you said you (...) can you give me an example of that? or even "I'm not sure what you meant when you said ...". A number of examples of responses of this kind can be found in the extracts from transcripts in chapters 5 to 8. Sometimes I would also offer interpretations in the form of questions such as "are you saying that ...?", as a critical check on my understanding (Kvale, 1996) and to encourage the teacher to reflect further. Probing questions often focused on participants' intentions for using particular approaches, or reasons for their responses.

I used several methods of attempting to discern whether teachers were talking about espoused or ideal approaches or approaches in practice, with the method chosen depending on the individual interview and the responses of the teacher. These methods included seeking confirmation of the teachers' descriptions by asking for examples and probing for intentions, or returning to earlier descriptions at later points in the interview to seek further clarification. Where there appeared to be incongruence between different aspects of an interviewee's descriptions, I often asked a question in the form "you were saying earlier that ... and now you're saying ... Can you tell me about why this is?". That being said, I found throughout the interviews that many interviewees needed little prompting to tell me about how the ways in which they would ideally like to teach differed from their actual teaching, and the contextual and personal reasons why these were different.

Transcription

As Kvale (1996) makes clear, transcription is not a simple process of converting speech to text. Following the typical processes of phenomenographic analysis, I sought to have verbatim transcriptions, but this still involved a series of choices. These included who should do the transcription, whether and how to include emotional expressions such as laughing or groaning and what do so about pauses (see Kvale, 1996).

I transcribed the first two interviews myself, but after that I used professional transcribers. The longitudinal nature of the interview process and availability of transcribers meant that four different transcribers were involved. Each was given the same written instructions to transcribe verbatim, including unfinished sentences, repetitions and ums and ahs. They were asked to indicate emotional expressions and pauses in brackets, and to indicate time codes for words or expressions which they could not decipher. Typically the transcribers had difficulty with the disciplinary terms that many teachers used when describing what they taught.

Transcripts were returned as Word files on disk. After I received the transcripts back from the transcribers I went through them on the computer while listening to the tapes on a transcribing machine. This process took from two to four hours for each one hour of tape. Part of the purpose was to correct (as far as possible) errors and omissions made by the transcribers, and interpret words or phrases which they had found uninterpretable, but this process also served as a first phase of re-familiarising myself with the data following the interviews.

After listening through each tape and checking the transcript once, I then listened through each tape with the transcripts. This time my listening took only a little longer than the tape time, and my focus was on both checking my initial check and gaining some impressions about the focus and meaning of what the teacher was saying. After finishing each tape, I wrote a brief paragraph on my impressions of what the teacher thought teaching was about, what kinds of things influenced their teaching and anything else that seemed important in

their descriptions. These paragraphs were later crosschecked during more detailed analysis, described in the next section.

Transcripts were not returned to the interviewed teachers for checking. This is not common in phenomenographic research. Also, in some cases the transcription was not done for a considerable period of time after the initial interview. The teachers' ways of experiencing teaching may have changed over the intervening period, so teacher "checking" may also have changed the meanings of earlier descriptions.

While my checks of the transcripts aimed to provide verbatim accounts as far as possible, I also adopted some practices to assist in my interpretation and in communicating quotes from the transcripts in this thesis and other papers. A few teachers constantly used ums and ahs which appeared to be part of their normal way of speaking (their conversation outside the interview was similar). In these cases, I created a second version of the transcript by removing the ums and ahs except where they appeared to indicate a form of pause, and used this version for most of my analysis. Quotes used in this thesis largely exclude the ums and ahs. They also largely exclude repetitions of words or phrases and "false starts" to sentences. Also, I have adopted the convention of replacing words or phrases which could lead to recognition of the teacher or colleagues with a general term, placed in square brackets.

Analysis of transcripts in relation to the different components of the study

Analyses took place over an extended period of time, so I will briefly describe my initial starting points and their influence before moving to a description of the analyses which related to the findings described in this thesis.

Initial analyses of pilot data

My initial analyses began with the first 10 interviews from my pilot group of teachers, and focused on first interpreting these teachers' conceptions of teaching in relation to the transcripts, and then comparing my interpretations with those in previous studies (Dall'Alba 1991; Martin & Balla, 1991; Samuelowicz & Bain, 1992; Prosser, Trigwell & Taylor, 1994). After completing the second interviews with this group, I compared the pair of interviews from each teacher with focuses on whether their conceptions and approaches seemed to have changed over time and the influences relating to these changes. At this stage, my focus was primarily on the individual teachers' experiences rather than on collective experience. I wrote vignettes of several of the teachers (see McKenzie, 1995). The process was repeated when I had completed the third interviews with these teachers (McKenzie, 1996).

These early analyses had several impacts. Firstly, it was evident that some aspects of my teachers' descriptions suggested categories which differed from those described in previous studies. In particular, there appeared to be one category which related to teacher-focused interaction, and a separate one related to more student-focused interaction (McKenzie, 1999) but the differences between these were not yet clear. This pointed to the need for a more complex analysis of teachers' ways of experiencing teaching, in order to interpret these differences. The "new" phenomenographic focus on experienced variation and its ontological framing in the nature of awareness (Marton and Booth, 1997; Marton and Pang, 1999) also appeared to offer considerable potential for interpreting change between different ways of experiencing teaching and aspects of awareness related to change.

Secondly, when I read the transcripts with a focus on teachers' descriptions of influences on teaching, I soon became aware that there were influences which focused only on some aspects of teaching and not on others. All of the teachers described themselves as changing their teaching in some way and many described greater comfort, confidence or interest related to these changes. Only some of these changes related to changes in ways of experiencing teaching. Using Sandberg's (1997) approach of using intentionality as a

correlational rule, I began to focus on *what* teachers were focusing on, in relation to their descriptions of *how* teaching was influenced. There were qualitative differences on what teachers focused on when they described changes in their teaching and in the related intentions they described for making the change. This led to a more systematic phenomenographic analysis of teachers' ways of experiencing *change in teaching*. This became critical in addressing the question of why some teachers change their ways of experiencing and others do not.

Focuses for subsequent analyses

The preliminary analyses of the pilot interviews became the first, partial iteration of a more complex series of analyses.

Interpretations described in this thesis were then constituted using five focuses for and processes of analysis, carried out iteratively. Three of these focuses were at the collective level, considering parts or wholes of all of the transcripts:

1. Mainly classical phenomenographic analysis was used to constitute categories of description for teachers' ways of experiencing teaching, with a focus on the critical aspects which varied between ways of experiencing;
2. A combination of classical and new phenomenographic analysis was used to constitute categories of description for teachers' ways of experiencing change in teaching in relation to the aspects of teaching on which variation was brought about and the relevance structures relating to change;
3. What I am calling a relational thematic analysis was used to constitute themes in teachers' experiences which related to them becoming aware of the critical aspects of student-focused ways of experiencing, and themes in teachers' orientations towards these experiences.

Two of the focuses were at the individual level, considering individual transcripts and the sets of two or three transcripts from each teacher, in relation to the interpretations constituted at the collective level:

4. Individual teachers' ways of experiencing teaching in each of their interviews were related to the categories of description, with the aim of identifying whether their ways of experiencing teaching had changed over time, and how this related to their ways of experiencing change in teaching;
5. Vignettes of some individual teachers were created both as part of the analysis and to illustrate particular patterns of relationships between ways of experiencing teaching, themes in the critical experiences and orientations related to becoming student-focused, and ways of experiencing change in teaching.

My approaches to the analyses were substantially influenced by the phenomenographic approaches described by Marton (1994), Marton and Booth (1997), Sandberg (1997) and Marton Dall'Alba and Beaty (1993). Within my study, I used two major ways of bringing about variation in my perspectives, and iterated between them:

- iterating between focusing on the collective set of transcripts, focusing on individual transcripts and focusing on the sets of two or three transcripts from individual teachers.
- iterating between focusing on variation related to particular aspects of each phenomenon and focusing on relations between these aspects, following Sandberg's (1997, p. 210) interpretive guidelines of "searching for structural features" through "free imaginative variation" and "using intentionality as a correlational rule".

These iterations and triangulation between the five focuses of analysis were seen as ways of taking the analyses as far as possible on my own (cf Bowden, 2000b), and strengthening the quality of crafting of the overall interpretations (cf Kvale, 1995).

Within phenomenography there are two main approaches to choosing a unit of analysis within the total pool of meaning (Åkerlind, 2002). Descriptions of phenomenographic research often refer to the use of both. One approach separates out parts of interview

transcripts which appear to relate to the phenomenon of interest and then treats these parts as a pool of meanings for discerning variation in ways of experiencing the phenomenon, while referring back to the transcripts where necessary to interpret the meanings of these parts in context (see for example Marton, Dall’Alba and Beaty, 1993). The alternative approach seeks to maintain a focus on the transcript as a whole (see for example Bowden, 2000b). My approach to this study favoured the second perspective, although I found it necessary sometimes to take the first perspective in order to manage the amount of data before relating the interpretations back to the whole transcripts. Taking the second perspective was important for maintaining a strong empirical connection between the different phenomena of interest as manifested in the individual teachers’ descriptions of their experience.

I began the analysis of the total pool of transcripts from the perspective of focusing on individual transcripts. As there were 76 transcripts in all, with an average of 20 pages per transcript, as a first step I read through each printed transcript with a focus on interpreting what teaching appeared to mean to the teacher, what the teacher perceived to influence teaching and what aspects of teaching seemed to be influenced. In interpreting what teaching appeared to mean, I looked for what the teacher appeared to focus on and noted particular expressions that the teacher used when describing aspects of teaching. As I read each transcript, I created a summary page with what I perceived to be key features of the transcript. I began with transcripts which had not been included in the pilot group, in order to take a fresher perspective.

As I read more transcripts and began to notice similarities and differences in meanings of teaching and influences on teaching, I began to colour code these on my summary sheets and on the transcripts and create descriptions of emergent categories and a content-analysis style list of influences on teaching along with the aspects influenced. Each subsequent transcript that I read was summarised and compared with the emerging categories and list. The outcomes of this initial process and the early interpretations of the pilot data were a set of preliminary categories of ways of experiencing teaching, along with some aspects which

varied between categories, and a grouping of influences on teaching according to aspects which were influenced. From this point onwards, I began to focus on separate components of the five analyses described above, but iterated between these focuses.

Constituting categories of description related to teachers' ways of experiencing teaching

Categories of description of ways of experiencing teaching were constituted using primarily a classical phenomenographic approach, using the framework described in chapter 2 as an analytic tool. The aspects of a way of experiencing teaching are the *what* aspects, the direct objects of teaching, and the *how* aspects, the act of teaching and indirect object of teaching. These aspects are intertwined in experience but were repeatedly separated and then related back to each other in constituting the categories. These aspects and the relations between them make up the internal horizon of teaching in each category, and the backgrounds that they are seen against make up the external horizon.

The process of constituting categories involved iterating between:

- Focusing on particular aspects of the transcripts and their related dimensions of variation;
- Seeking complementarity between aspects of different dimensions;
- Constituting the set of categories by focusing on the relations between structure – the patterns of aspects - and meaning.

In moving beyond the preliminary categories, I adopted a particular focus for reading across the set of transcripts each time I read through them (Bowden, 2000b), and iterated between these focuses. The five primary focus questions were:

- what does the teacher experience herself/himself as teaching (direct object)
- how does the teacher experience what she/he is doing in teaching (act)
- what are these acts of teaching focused towards – what is the teacher seeking to bring about by them (indirect object)?

- What are the internal relations between what the teacher is teaching, how she/he is teaching it and what teaching intends to bring about?
- What does teaching mean to this teacher?

These focuses related to different clusters of aspects of teaching, corresponding to different dimensions of variation⁵. As different aspects of the same dimension appeared in different transcripts and similar aspects were expressed in different ways, part of the focus was on discerning the similarities and differences in aspects corresponding to the same dimensions of variation across transcripts, and part on discerning aspects related to different dimensions. I used colour coding a lot to assist in this process and to identify quotes relating to the different aspects. The focus in constituting categories then iterated between focusing on the aspects of the same dimension and focusing on the ways in which aspects of different dimensions were empirically and logically complementary (Marton, Dall'Alba and Beaty, 1993).

Complementarity between aspects was constituted using three iterative processes: seeking evidence of the internal relatedness of aspects of different dimensions of variation within individual transcripts using the principle of intentionality (Sandberg, 1997); seeking complementarity or dissonance between these aspects across different individual transcripts (or parts of transcripts referring to different situations); seeking variation and similarity between categories as wholes by focusing on the overall relation between the internal and external horizons of teaching in the emerging categories. The complementarity of aspects within a category of description relates to the internal horizon.

The internally related set of categories of description was constituted by looking at the way in which each category related to the phenomenon of university teaching, and on the critical

⁵ The dimensions of variation that I am referring to here are the dimensions I experienced as the researcher. They correspond to the dimensions experienced by teachers who were aware of the most complex category of description, but not the dimensions experienced by all teachers. For example, while I and many of the teachers experienced a dimension of the act of teaching which had aspects including facilitating and transmitting, some of the teachers experienced only the aspect of transmitting. For

differences and relations between the categories as wholes. The processes of constitution were primarily empirical, using the structure of awareness as a framework for focusing on the overall patterns of aspects described within individual transcripts. As awareness of a more complex way of experiencing assumes awareness of less complex ways, I sought direct evidence for this in the teachers' descriptions. This part of the analysis took a new phenomenographic turn, focusing on the dimensions on which the individual teachers brought about variation. These processes focused on the structure of teaching within the categories. Creating provisional labels for the categories at different stages of the process, from the pilot phase onwards, focused on and clarified the meaning of teaching in each category.

In addition to iterating between these different focuses across the whole set of transcripts, and focusing on complementarity within individual transcripts as well as across the set, I also iterated with reading across the group of two or three transcripts from each individual teacher. The focus questions for this iteration were from a first-order, rather than second order perspective:

- What ways of experiencing teaching are being expressed in this transcript?
- Has this teacher's way of experiencing teaching changed between transcripts?
- If I think there is change, what evidence supports this, in terms of the aspects of teaching which have changed?

Taking this focus during the process of constituting the categories was important for providing another perspective on the data and refining differences which may otherwise have been missed. Two other processes also yielded differences in perspectives: reading the transcripts on screen compared with reading the printed versions and writing the category descriptions, both for conference papers and for this thesis. At one point in the analysis I also exchanged transcripts and category descriptions with a fellow academic developer and PhD student, Gerlese Åkerlind, and this process was valuable for confirming

them, the variation appeared to be between transmitting or not transmitting, which could be interpreted as a sub-dimension of the larger dimension.

and clarifying aspects of categories for ways of experiencing teaching and change in teaching.

Iteration between the processes described above continued until the categories had stabilised in their present form. The overall processes of analysis took place over a number of years, with long breaks between some of the iterations. My perception was that this strengthened the analysis, by bringing a fresher perspective each time than might otherwise have been the case. The outcome of the analysis process was a set of six categories of description, including the critical aspects and internal and external horizon of the way of experiencing represented in that category. These are described in chapter 5.

Constituting categories of description related to teachers' ways of experiencing change in teaching

Constituting this set of categories followed a similar iterative process to constituting the categories for ways of experiencing teaching, but with some important differences. The first of these concerned the way in which parts of the transcripts relating to change in teaching were delimited. Descriptions related to change in teaching were delimited from teachers' broader descriptions of their teaching in two ways. One was through the teachers' explicit reference to changing or having changed aspects of their teaching or to aspects being different from before. This included responses to explicit questions about changes in teaching. The second way involved focusing on teachers' use of contrastive rhetorics (Delamont, Parry and Atkinson, 1998; Hargreaves, 1984) in their descriptions of teaching. Contrastive rhetorics are devices by which people compare past or present, or themselves with others, often with the aim of justifying their present actions or distancing themselves from previous ones. Delamont et al (1998) found that the postgraduate supervisors they interviewed:

used contrastive accounts to compare their experiences as students, or their experiences as inexperienced supervisors (or both) with their current practices. They

often did so in order to capture and illustrate another tension, contrast or dilemma. (p. 159)

The teachers in my study used similar contrastive rhetorics, comparing their present teaching with their teaching in previous semesters or with when they were new to teaching. In delimiting descriptions related to change, I focused on those where the teachers used expressions such as “I used to ... but now”, “When I started teaching ... Now”, “Last year ... this year” and so on to compare past and present teaching, then chose the whole of the transcript segment where the comparison was being made.

The second difference in analysis between this set of categories and the previous one was the analytic framework, which in this case was the framework relating to the experience of change in teaching, described in chapter 3.

The third difference was in the focus questions for the iterative analyses, which sought to explore the two faces of variation (Marton and Pang, 1999), the second face being focused on through seeking patterns of experienced variance and invariance in the delimited parts of the transcript.

- What aspects of teaching are the teacher focusing on changing (direct object)?
- When the teacher compares past and present teaching, what aspects are being varied and what held invariant? This involved focusing on what was being contrasted in teachers’ contrastive rhetorics, besides the temporal dimension.
- What is the change directed towards: what is it intended to achieve (indirect object)?
- How did the change come about (act)? The acts of change were interpreted as relating both to what the teacher did to bring about change and what the teacher described as influencing this. Sometimes these were inseparable.
- What are the internal relations between these aspects?

The outcomes of this analysis are described in chapter 7, using both a set of categories of description and a related description of the aspects on which variation was brought about

and the apparent relevance structures that teachers experienced in situations related to change.

Constituting themes in the critical experiences and orientations related to change in ways of experiencing

In constituting these themes, I departed from a classical phenomenographic approach, taking intentionality, the structure of awareness and the theory of learning and awareness as points of departure. My focus was on interpreting, from the teachers' descriptions, how teachers became aware of the critical aspects of student-focused ways of experiencing teaching. I began this focus of analysis with the list of influences on teaching generated through the preliminary content analysis, but then narrowed and refocused the analysis.

Parts of the pool of transcripts were delimited for this analysis. I firstly focused only on transcripts in which teachers described student-focused ways of experiencing teaching, or which immediately preceded such a transcript in the set from that individual teacher. (As the processes of analysis proceeded, a few transcripts moved into or out of this pool.) Relevant parts of the transcripts were identified by focusing on aspects which these teachers described:

- as influences on their teaching or thinking about teaching, whether in relation to a specific question about influences or spontaneously in other sections of the transcript; and/or
- explicitly or implicitly as connected with changes in their teaching or thinking about teaching; and/or
- in relation to how they learned to teach in the student-focused way that they did.

The term "influences" may be suggestive of causality, but it was a term used in the interviews because teachers typically responded by describing aspects of their teaching situations, prior experiences or personal orientations which they perceived to relate to changes in aspects of their teaching. When teaching is in the theme of a teacher's awareness, influences on teaching can be seen as being phenomena or aspects in the thematic field,

connected to teaching by their structure or meaning. The dynamic nature of awareness is such that teachers shift their focal awareness between different aspects of teaching and the thematic field when they are teaching or reflecting on teaching (cf Booth, 1997). The selected parts of the interview thematised the “influencing” phenomena or aspects.

Influences can also be seen as having an intentional character - they influence something. My analysis of these influences focused on whether and how particular influences were intentionally related to teachers becoming aware of student-focused ways of experiencing teaching. Based on the theory of learning and awareness (Marton and Booth, 1997), I focused in particular on how perceived influences may afford the experience of critical aspects by opening particular dimensions of variation or creating relevance structures which focused teachers' awareness towards this variation.

As with the two phenomenographic analyses, for this analysis I used a process of constant comparison, focusing from different perspectives. In this case, the aim was not to constitute internally related categories of description, but to constitute themes. The focus questions were:

- what influences are being described?
- do, and then how do, these influences relate to teachers becoming aware of variation in dimensions related to the critical aspects of student-focused ways of experiencing teaching? What is the relation between this influence and these critical aspects?
- what are the kinds of situations which relate to this awareness?
- what constitutes the relevance structure for teachers in these situations?

This analysis iterated with the analyses related to the sets of categories of description, but was finalised after both sets of categories had stabilised. Analysis was concluded when the overall set of “influences” had been reduced to the smallest number of themes that meaningfully described the variation in the relations between the kinds of influences and the critical aspects of student-focused ways of experiencing teaching, or the teachers’ ways of experiencing teaching as a whole.

Two kinds of themes were constituted through this analysis, and are described in chapter 6. The first, including four themes, related to the critical experiences that appeared to afford the experience of relevant dimensions of variation in particular situations. The second, including three themes, related to the teachers' orientations towards these situations which appeared to create relevance structures related to them discerning and focusing on this variation.

Interpreting change in individuals' ways of experiencing from a phenomenographic perspective.

Interpreting whether teachers' ways of experiencing teaching had changed involved comparing the most complex ways of experiencing teaching that I discerned across the two or three interview transcripts from each teacher. I describe this as taking a first-order perspective on change, compared with the second order perspective on teachers' ways of experiencing change, and I had a particular interest in changes from teacher-focused to student-focused ways of experiencing, or changes in the opposite direction. The patterns of change and stability over time in the teachers' ways of experiencing teaching are described in the first part of chapter 6.

Interpretations of individual teachers' ways of experiencing were made by using the structure of awareness as an analytic framework for focusing on the patterns of aspects which were simultaneously in focus in the teachers' descriptions. I compared the patterns of aspects in each transcript and their related meaning with the critical aspects and related meaning of each category, and also cross-checked each transcript with those from other teachers relating to the same categories until a stable decision was reached for each transcript. As described previously, this iterative, comparative process was used in the constitution of the categories themselves, but the final process of relating individual transcripts to categories was carried out after the categories had stabilised.

As individual teachers often described aspects relating to more than one category, it was important to create consistent rules for what constituted adequate evidence for allocating a transcript to a particular category. Where teachers described coherent patterns of all or most of the complementary critical aspects of a particular category, and also described aspects of less complex categories, the transcript was categorised as relating to the most complex coherent category, following the approach taken by Marton, Dall’Alba and Beaty (1993) and Wood (2000). This is consistent with the structure of awareness, as awareness of a more complex way of experiencing implies awareness of aspects of less complex ways. In some cases there was more than one coherent pattern, relating to descriptions of different teaching situations, and the transcript was categorised as relating to both categories.

Other transcripts required different kinds of interpretive judgements. In some transcripts I could discern one or two aspects of a more complex category but they did not appear to relate to a coherent whole. In these cases an interpretation was made by focusing on the teacher’s frames of reference. For example, some teachers described more complex aspects in relation to aspirational or ideal frames of reference than they did in relation to their actual teaching situations. Other teachers described aspects of more complex categories in relation to situations where they were learners (see for example Linda’s quote in chapter 5, category F). In examples like this, the transcript was categorised according to aspects described in relation to the teacher’s actual teaching situation, but with an indication that there seemed to be an awareness of aspects of a more complex category.

In a few transcripts, there were aspects of two different ways of experiencing teaching which appeared to relate to the same teaching situation but suggested dissonance⁶ between the indirect object and act of teaching: the teacher’s intention for student learning and what they do as a teacher to bring this about. These were classified in relation to the most coherent meaning which could be interpreted, on balance, which in most cases related to

⁶ The term dissonance is used to indicate lack of congruence between the constituent aspects of a teacher’s way of experiencing. This usage differs from dissonance defined in terms of dissonant patterns of responses on the Approaches to Teaching Inventory (Prosser, Ramsden, Trigwell and Martin, 2003), but the two might relate to the same kinds of teacher experiences.

the focus of the act and direct object of teaching (see for example Paula's quote in chapter 6). Some of these dissonant patterns indicated that the teacher's way of experiencing teaching was in the process of changing or had the potential for change, and this can be seen in the vignettes described in chapter 6.

The situational nature of teachers' ways of experiencing the teaching also posed some practical difficulties for carrying out a longitudinal investigation of individual change. As I've mentioned earlier, the interviews with each teacher were designed to focus on ways of experiencing teaching in particular situations. Where possible, I asked teachers to focus on the same subject in each interview, but a number of the teachers were not teaching the same subjects or the same types of classes (lectures, tutorials etc) at the time of all three interviews. Some were teaching different subjects, some had changed their level of responsibility in a subject, from tutor to lecturer or vice-versa, and two had changed universities.

This change in context posed potential problems for interpreting the meaning of any perceived changes in these teachers' ways of experiencing teaching. The change may be related to the teacher becoming aware of a way of experiencing teaching of which they were not previously aware. On the other hand it may be related to the teacher perceiving the new teaching situation in a different way, which evokes a different way of experiencing teaching.

In order to distinguish between these alternatives, in follow-up interviews where a teacher was teaching different subjects I asked the teacher to reflect on the similarities and differences between the subjects they were teaching now and those they had been teaching and had discussed in the previous interview(s). This was followed up with one or more questions about how any of those differences influenced the way they taught or thought about their teaching. This process of dealing with what I perceived to be a problem proved useful for the research findings overall, in identifying a range of situational factors which teachers perceived to influence their teaching, some of which were influences in changing a

teacher's understanding of an aspect of teaching. These findings will be explored in more detail in chapter 6.

Creating individual vignettes

Individual vignettes were necessary to illuminate the relations between teachers' ways of experiencing teaching, patterns of change over time, experiences and orientations related to change in teaching and ways of experiencing change in teaching. I have chosen the expression "vignette" rather than "case study" to reflect my intention to illuminate the critical connections between the different aspects of my study, rather than to provide a rich, thick description of the whole of an individual's experience. However, I see the vignettes as sharing some of the descriptive and heuristic benefits of case studies, illustrating the complexities in individual teachers' experiences related to change in teaching and increasing the potential applicability of the findings (Merriam, 1998). In relation to phenomenographic research, Svensson (1997) describes individual cases as being generally useful in clarifying categories and improving the basis for validity and generalisability:

It is important to realise that the general description of a conceptions in terms of a category does not stand by itself. We aim at differentiating the general to be able to find it in the concrete, not to separate it from the concrete as something in and by itself. This means that we have to consider descriptions of individual cases, not only as a basis for clarifying the meaning of the general category, but also as important in themselves. An important knowledge concerns the relation of the meaning of the general category to the individual cases. This is so from the perspective of generalisation and the use of the categories of description. The more extensively the role of the general in the specific case is described, the better is the validity and the basis for generalisation and theory development. (p. 170)

In my study, vignettes of individual teachers were created during and as part of the analysis, to clarify the categories and themes and interpret the relations between them in terms of teachers' experiences. Logically, it would be expected that the categories describing change in ways of experiencing teaching would be related to the categories for ways of experiencing teaching, but creating vignettes of individual teachers empirically illuminated the

relations. Some vignettes were short, consisting simply of the collation of the summary pages from my initial readings of the teachers' transcripts with subsequent additions and changes. Others were more extensive descriptions of patterns in the teachers' experiences over time. Vignettes, like categories, were progressively modified and some new ones written over the period of the analysis.

The vignettes illustrate why some teachers change and others don't, through describing the overall patterns of relations between these teachers' ways of experiencing teaching, the presence or absence of critical experiences and orientations and the teachers' ways of experiencing change in teaching. These overall patterns, constituted through relating the analyses from all parts of the study in relation to the experiences of individual teachers, are described in chapter 8.

Four teacher vignettes are included in this thesis. Two in chapter 6, of Neil and Ellen, illustrate change in these teachers' ways of experiencing teaching and the critical experiences and orientations which related to this change. Two in chapter 8, of Andy and Tim, contrast the patterns described by teachers whose ways of experiencing remained teacher focused, compared with those whose ways of experiencing became student focused.

Chapter summary

This chapter has described and attempted to provide rationales for the methodological approaches that I took in this study, and how they relate to classical and new phenomenographic research perspectives. The outcomes constituted through my analysis are described in the next four chapters.

Chapter 5

Variation in ways of experiencing teaching

This chapter addresses the overall question of what it means for teachers to change their ways of experiencing teaching from teacher focused to student focused. It focuses on two related sub-questions:

- what is the variation in the structure and meaning of teaching between the ways of experiencing teaching constituted in this study; and
- what are the critical aspects which distinguish student-focused from teacher-focused ways of experiencing.

In this chapter, the critical aspects of the teachers' ways of experiencing teaching are outlined in a set of six categories of description. Categories relating to different ways of experiencing teaching are described in terms of different patterns of critical aspects, so that change between two ways of experiencing can be described in terms of the teacher's awareness of the critical aspects of the new way of experiencing. Change from a teacher-focused to a student-focused way of experiencing can then be described in terms of a teacher becoming simultaneously and focally aware of the critical aspects of a student-focused way of experiencing teaching.

In the next sections of this chapter, the set of categories is outlined, then each of the categories is described in terms of the critical and complementary aspects of the act, object and indirect object of teaching and the internal and external horizons which relate to that way of experiencing. Following these descriptions, the logical and empirical relations between the categories are analysed in greater depth.

Categories of description

The six categories of description of ways of experiencing teaching were constituted across the analysis of the set of transcripts. They are hierarchically related through the acts and objects of teaching. These are, in order from least to most complex:

- Category A: Teaching as transmitting information so that it is passed on to students
- Category B: Teaching as organising, explaining and demonstrating information so that students acquire disciplinary concepts and methods.
- Category C: Teaching as teacher-focused interaction with students and student activity to help students to become capable of using the concepts and methods of the discipline or profession.
- Category D: Teaching as a facilitative process of relating teaching to learning to help students to develop their own disciplinary or professional understanding.
- Category E: Teaching as guiding students to explore and develop professionally and personally and become independent as learners
- Category F: Teaching as challenging and enabling students to change the relation between themselves and the world.

In the following sections I will outline the categories and their critical aspects, illustrating these with quotes from the teachers' accounts. Following this I will describe in more detail the relations between the categories, the critical aspects and their related dimensions of variation.

Category A: Teaching as transmitting information so that it is passed on to students

In this category, teaching means that the teacher transmits information to the students and tries to make it interesting. Teaching is described using terms like transmitting, transferring,

delivering, giving or passing on of information or knowledge. Teachers have the subject knowledge and the aim of teaching is to pass the knowledge on so that students have it.

Teaching itself, oh ? (pause) Trying to well to pass on a concept, a theory. Then (pause) it has to be more than just getting up there and passing on what you know. You have to be able to also like, generate some interest in it also. (Shane1)

The act of teaching is one of transmitting. The structural aspect includes the teacher, the knowledge and what the teacher does to pass the knowledge on: talking about the material, using overheads and/or writing on the board:

I go in and I talk about what I, what we did last lecture just to review. ... And then I just, then I lecture after that. How I tend to do it is I'm talking about a particular subject, I'll just talk about it for a few minutes and then write on the board what, basically what I've just said, and then when anything new comes up I'll just talk about it and just follow and write up about it. And then at the end, when I finish a sort of a section, I'll do a problem on it. (Andy1)

The act of teaching also includes trying to make the material or presentation interesting or entertaining and observing the students to see whether they are attentive and interested. The attention of the students and their interest or boredom are part of the external horizon.

Somewhere floating around in my in tray there's a paper from a Canadian academic who says that 60% of a lecturer's job is as a entertainer. I'm inclined to agree with that. ... I notice these students, they start to yawn very quickly unless you're really entertaining and there is nothing more frustrating, you know. ... So I try to make them as entertaining as possible because my theory is if I can keep them entertained they're going to listen. They're not going to understand anything if they don't listen. That's the first step. To take an interest in the information which is being discussed, passed, all those sorts of things. (James2)

The indirect object of teaching is to have passed on the knowledge so that students have it, usually in the form of notes. There are two aspects to the external horizon, the first one being the event students will be assessed on the knowledge:

I like students to have a record of what they have to know at least.

I. Why is that important?

Because they're examined on it. I mean, they have to know what they're examined on. (Andy1)

The second aspect of the external horizon is the amount of material which has usually been covered in the subject, or which colleagues expect to be covered:

... there is always a schedule prepared on what's to be done each week. ...
traditionally there is a certain amount of material that must be covered (Frank1)

The direct object of teaching has a taken for granted quality. It is the material or knowledge which needs to be passed on, and which exists in the teachers' knowledge and the syllabus. Subjects and topics consist of elements such as concepts, equations and problems, with little sense of connection between them:

Most of the lectures tend to be descriptive, you know, explanations and things, concepts. And you know the physics behind an equation, so you might have a heat flow equation, and you say well heat flow is proportional to this, it's proportional to this, and that's about it. So we can write down this equation to describe it. (Andy1)

Preparing for a teaching session is a process of transferring material to the teachers' notes or other resources which will be used in classroom teaching or given to students:

I just basically just write out my lecture and sort of maybe write it out a couple of times and so that's the lecture. ... and then there's overheads and stuff I prepare as well. (Andy1)

Teaching is seen as a necessary pre-requisite for learning but separate from it. If the teacher has covered the material then it has been passed on. Learning itself is part of the external horizon of teaching.

a base responsibility is to tell them what they have to know at least and that's what I do, and so even if I'm a hopeless lecturer, and they don't understand me, then at least they can know that ... Their responsibility is to spend time away from the lecture, trying to understand what's been said.

- I. So how would you know whether a student had learned something in the subject?

How would I know? Well they have class tests. (Andy1)

In summary, in this category teaching means transmitting information so that it can be passed on, and making it interesting to maintain students' attention. The critical aspects are the taken for granted nature of the content, the act of teaching as transmitting and the intention that the content be covered by the teacher and passed on in an untransformed way to the students. The external horizon of teaching includes the expectations of colleagues or the department about what will be covered, the non-verbal reactions of students in the immediate class setting, student learning of what has been passed on and the context in which this will be assessed.

Category B: teaching as organising, explaining and demonstrating information so that students acquire disciplinary concepts and methods.

Whereas in category A the organisation of the content and the connections between its parts are taken for granted, in this category they are in focus. The teacher is aware of part-whole relations within the subject and different levels of importance of some parts within the whole, so the direct object of teaching is the content as structured and organised by the teacher to represent these relations. The aim of teaching is for students to be able to acquire the content, including seeing its relevance and the connections between its parts in the form in which they are explained by the teacher.

It was scrabbling around this pile of information from all sorts of things, putting it together and trying to put it into coherent form for presentation... I guess teaching is partly that. Organising information into a form that can be taught and digested by other people. (Lorraine1)

The act of teaching is explaining organised material. In preparing for teaching, the act focuses on organising material. One approach to organising focuses on logical sequencing:

Well, after I go through my notes and I look at it after I finish my first draft, I go and I say to myself “this isn’t very clear” so I rewrite them a second time I think, “well I could explain this topic a little better” and so usually by about the third draft it’s presented in what I think is a relatively logical sequence. Also, you know, these topics, when you’re actually doing problems, it’s kind of sometimes easy to figure out what the logical presentation order is ... you need to discuss all the equations that they need. All of them have to be used for a problem and one is dependent on the other. (Sam1)

During a teaching session, teaching focuses on explaining and showing the relations between parts of the material. Teachers’ descriptions of how they do this vary depending on the type of subject matter and whether their frame of reference is a single teaching session or a series of sessions. In one example, the teacher builds on concepts, relates them back to each other and follows a structure so that students can see how things fit together both within a single lecture and a series of lectures:

The way in which the lectures themselves are taught ... each lecture builds upon concepts that were introduced in a previous one. The structure of the lectures themselves is planned so that you start off with the basic concept and build upon that and whilst you might move on to a new concept, try and relate that back to what you’ve done previously. So it’s all well, carefully planned out so it does follow some sort of structure so that by the end of the course they are able to see how everything does fit together rather than just teaching everything, each lecture being nebulous and unrelated to the previous topic. (Shane1)

Another teacher focuses on reducing large volumes of material to what is essential and relevant and elaborating on these points. In this case, the part-whole relations within the subject can be seen in terms of the essence, the elaborations and connections to relevance as shown by the teacher. Content is seen as understandable if it is structured and presented in a particular way. Like in category A, the external horizon is the assessment situation where students will need to show that they have acquired the material:

I try to reduce down to essential facts ... then I even reduced my notes down further to headings that I then prepared overhead transparencies from the headings. And I included an introduction where the first transparency sets out what I'm going to cover. Beginning to end points. And then I go through and elaborate ... and I have a final overhead transparency which is how to tackle an exam question ...

...

I suppose, if it's interesting, it might become understandable because people can relate to it. I like relevance. I often think trying to show relevance helps. ... For the lecture I sort of looked over my notes, looked over my transparencies and really trying to think, "can I follow that?" "is it understandable?" and I was quite satisfied that "yes, ... that was quite clear, that was concise. I think that that's enough to understand." because I try to keep it reduced to points. ... I think, getting to an essence of something helps to understand it and I tried to get to that essence. (Ellen1)

As is indicated in the above quotes, the indirect object of teaching differs from that described in category A. The intention of teaching is for students to understand the material, where understanding is seen as acquiring the understanding which has been structured by the teacher. Students are not expected to actively engage with the material in order to acquire it, but should ask questions to let the teacher know whether they do or don't understand.

I get worried if they don't ask any questions. If they don't ask any questions they've either understood everything or they just weren't interested. Rarely I think it's going to be the case that they've understood absolutely everything I've said. So if ... they come and see me and ask me about a particular concept rather than just walking straight out the door, then at least I know they've been listening. (Shane1)

Teaching does not include actively asking students questions, and teacher-student interaction is still predominantly one-way from the teacher to the students. It includes re-explaining when students ask questions, but re-explanations do not appear to consider the quality of students' understanding:

... inevitably there will be a question asked by a student which, I've explained something and the question illustrates the fact that they didn't understand it ... I'll try to explain it in a different manner. I don't think quickly on my feet, so I have to have pre-thought out any explanation if I want it to be clear, otherwise I'll just confuse the issue more. (Sam1)

In summary, in this category compared with category A, the critical aspects of teaching are organised and connected content which the teacher perceives in terms of part-whole relations, the act of teaching as explaining the content and responding to students' questions and the intention for students to acquire the content. While teachers may spend considerable amounts of time in structuring the content, they talk in a way which suggests that this structured content can be acquired by students if it is explained well enough and/or the teacher shows its relevance and students listen. The internal horizon contains the teacher and their teaching strategies, the organised material to be learned and the reactions of students. Responding to students' questions is part of the internal horizon but actively asking questions of students (beyond "are there any questions") is not. The external horizon of teaching is still largely the assessment context where learning needs to be demonstrated.

Category C: Teaching as teacher-focused interaction with students and student activity to help students to become capable of using the concepts and methods of the discipline or profession.

In this category, teaching means helping students to acquire material and become capable of applying it in order to develop competence in using the theories and processes of the discipline or professional field. Students are expected to be active in order to learn to apply knowledge so the act of teaching includes providing for student activity and having some

two-way interaction so that the teacher can check on understanding and give feedback.

Teachers may describe teaching as helping students to learn or understand. Understanding is still seen in terms of students acquiring an external understanding, but the context is broader and students need to be able to apply understanding in situations beyond the teaching context. Descriptions of teaching in this category often include aspects of categories A and B, but broaden beyond them and shift their focus towards helping students to become capable of applying concepts and methods:

(pause)Teaching? Helping students to learn, if that's not too cliched. That's how I see it.

I. So what does that mean?

Providing frameworks, materials, ideas, activities that help the students to learn whatever it is that I'm teaching. (Julianne1)

Personal teaching? (long pause). ... in some sense I'm acting as a provider of some basic knowledge and things like basic information to them. OK? Then that is not enough. I have to also help them to use that information in applications and things like that. ... So giving three things. Is providing information and teach them how you can apply this information. ... and to also ask [a] lot of questions to students to see whether, how far they get understanding about it, the topics they have to do.

(Ramesh2)

Student activity or interaction is a critical aspect of the act of teaching which distinguishes this category from category B, but the forms of activity vary widely in relation to different teaching situations and discipline areas. Activities may include the active questioning of students in class (as in the quote above from a science lecturer), encouraging student participation in routine problem solving, managing student discussion and assigning work on which students are given feedback. The following description from a humanities lecturer again includes aspects of category B but goes beyond them:

You have got to do masses of reading and you have got to organise that into topics and try to make the whole theme a kind of coherent package ... I see my responsibility to kind of introduce the material, the theoretical material ... I see my responsibility in organising them and facilitating just some peer, some kind of peer interaction and whether that is trying to get a discussion going, trying to keep it going and trying to direct it or organising them into small groups and getting each of those groups to report back and then you know kind of shaping what comes out of that.
(Paula1)

In teachers' descriptions related to this category, there is usually a strong focus on what the teacher does in planning and managing subjects and teaching sessions. The relation between teaching and learning could be described in behaviourist terms - the teacher has clear aims, provides coherent material and sets up activities, the students participate, practice and perform, the teacher gives clear feedback and is the source of judgement about students' work.

Two indirect objects of the act of teaching can be discerned in this category. One is described in relation to class teaching situations, where an immediate aim of the act of teaching is to maintain students' participation and interest in the class. Unlike in category A, in this category interest is gained through students participating. One teacher describes this as follows:

I have introduced, only because I think it might work, group brainstorming. ... and it worked, it seems to work. Some of the students don't like to join in, but a little bit of encouragement they seem to join in but you can't force them.

...

I. Why do you get them to do that?

Participation, rather than, because I see if I just do the chalk and talk bit they just turn off. I'm just looking for ways to keep them interested. They're not always interested in what I've got to say so I let them say it. (Frank1)

The above description suggests an affective aspect of this category which goes beyond interest and relates to students liking the activity they are doing. Teachers' descriptions suggest that they feel satisfaction from a relaxed environment and sense of student enjoyment as well as interest in a class.

A different teacher describes her teaching in a lecture in a way which suggests two indirect objects and a relation between them. One is keeping students attentive and "on track". The second relates to the teacher's understanding that she intends students to gain as a result of doing activities. The teacher's description includes "knowing where students ask a question in their minds" and questioning students but does not focus on the responses that students give.

I don't tend to lecture and expect notes to be copied down. ... I've taught economics for 5 years so I know where they ask a question in their mind but they don't, you know, express it, so I always stop at lots of points and say, well you know, "why is that?" I just question them say, just to keep them on track, otherwise you know, you'd end up losing people.

...

I keep them going and I try to hand out a lot of, you might call them activity sheets, but things where they've got to ... break from listening to the lecture and sit down and think about a case study and just some simple questions. So, well I try to put those in and hopefully, I don't get too much of the glazed eye look. (laughs)

...

I've got the theoretical framework. You need to have a base and then if you understand the framework you can sort of grasp, you know, how it relates to real life situations. (Kelly1)

The above description illustrates a critical aspect of the direct object of teaching as experienced in this category – what is taught are the external theoretical frameworks of the teacher and the discipline, and how they relate to real life situations. Learning is seen as acquiring the teacher's knowledge and being able to use it. Later on in the interview, the same teacher talks about teaching as:

Well in the courses I'm teaching now it's quite good, cause I'm actually trying to get across messages that I know quite well to the students. So to get across my understandings about economics and finance to the students ... so they're really comfortable with those topics. (Kelly1)

The following description is also of teaching the teacher's understanding, but this time of how to solve tutorial problems in which understanding is applied. Teacher questions are aimed at seeing how much students have understood, not on qualitative differences in understanding. Students have more or less understanding or gain understanding more quickly or slowly and this is due to individual differences:

I invite some of their opinion and how to solve the problems and everything. Some idea. Then I'll also discuss with more details, you know, about the proper approach to solve the problems. Yeah.

- I. So why do you do it that way?

That way I can see whether the material that I have taught to the student, how much they understood. ... but usually the response won't be to my expectation. ... it's a problem is how much they digested. Some students they are very good immediately. Some students sometimes concentrate on writing, most of the time writing what I was telling and things like that, or just copy down the transparency ... So their concentration may not be 100 percent there

...

- I. You mentioned before you wanted students to think and understand. What did you mean by 'understand'? What does that mean to you in that subject?

See if they really understood they should be able to apply what I've been teaching into the both qualitative kind of questions and quantitative kind of questions too, OK. And again this depends on the student's ability too, in a way. (Ramesh3)

Teaching may include having student-student interaction, but this also focuses on external understandings. Students interact to find out what they don't know and explain it to each other:

They get a tutorial question sheet and ... I divide them up into groups of about 5 ... and I say you've all got a sheet but I would like you to all work together. ...

- I. So why do you want them to work together?

Because they find out what the other one doesn't know and I go around from group to group and you hear them explaining to each other, which is what I want, and then they call me over. ... I have a master sheet in case I forget the answers at that crucial moment. (Lorraine1)

The direct and indirect objects described above relate to what is taught and what teaching seeks to achieve in the immediate context of the classroom. There are also other direct and indirect objects of teaching, relating to the longer term aims for student learning. Students are expected to become competent in using the concepts and methods of the discipline or profession. What is taught includes the concepts and methods described in category B, but expands beyond them to include the broad procedures and ideas of the discipline area and the capabilities required for students to use these in practice. A lecturer from Engineering describes what he wants students to learn from his subject as follows:

Me personally, I want them to be able to go out there and confidently and competently attack a design project. And I find up until that stage they are incompetent. ...

- I. Right, so what does being able to confidently and competently tackle a design project involve?

To be able to ... read or take in an objective given by his boss or whoever, to be able to ask the right questions, to be able to put down a specification ... I just want them to know that they are workable procedures. ... not only are the textbooks OK, but it works as well. So that's what I mean by competent, they are able to follow procedures that do work. (Frank1)

The focus is on students becoming competent in following given procedures, so that they can use them in the world of work. The internal horizon includes the procedures and how they are related to each other and to the context of application. The external horizon is the

professional or disciplinary world where students will need to apply the concepts or procedures in different situations.

In descriptions from a humanities lecturer, the indirect object focuses on the culture of the academic discipline rather than the future work of a profession. The direct object of teaching emphasises the processes of the discipline. The indirect object focuses on students' acquisition of the culture of the discipline and disciplinary competencies such as communicating, interpreting and thinking critically within this culture. The description refers to student understanding, but it appears to be a discipline-focused rather than student-focused understanding:

- I. You have mentioned readings and discussions quite a lot in terms of you and the students. Why are readings important?

Well I mean that is absolutely taken for granted around here. That, that's what courses are. So you are asking me a question that is something that. Rather than what?

- I. What do *you* use them for?

I mean I suppose it is to initiate students into academic work, to expose students to forms of academic work, forms of theorising and forms of research. I don't know. It is a culture, sort of like the ideas are transmitted, the culture is transmitted through writing and you can't possibly become competent unless you read and write in that field.

- I. What is the discussion for?

(pause) What's discussion for? Facilitating understanding. Quite often you know several heads are better than one at actually interpreting, understanding, and applying a text. For developing people's ability to analyse. ... You know every time I realise that there is somebody who won't talk but who has a really good understanding and can do really good work, I feel disappointed that they haven't shared that. So I guess part of the culture here is ... sort of an obligation to share understanding and to

experience the stimulation of hearing other people's ideas because it is a verbal competence, I guess, that you learn through participating in these small tutorials and seminar classes and I guess that is just part of the culture here. (Paula2)

The above description comes closest in this category to the next category, with the mention of students sharing understanding and hearing "other people's ideas" but understanding appears to be seen as something which can be given by those who have it to those who do not, rather than something personally developed by each student.

Some teachers' descriptions related to this category contain concerns that students don't seem to value the disciplinary or professional cultures and competencies that the teacher values. These concerns seem to reflect perceptions about students which are not part of this way of experiencing teaching per se but are closely related in the thematic field of teaching. Teachers may be disappointed when students do not participate in the practices of the discipline, as in Paula's description above, or when it appears that students have instrumental aims rather than being interested in achieving aims that the teacher values:

Most people here are in it for the degree. They don't care if they learn anything or not. They get a degree because it's a step up, you know. It's a means to a job, maybe. Yeah, that really worries me to some extent. ... Unfortunately they're in it for the piece of paper and I don't know how to do anything about that. (Frank1)

Teachers appear to see instrumental attitudes as characteristic of particular kinds of students. Teaching may try to motivate students but this is often seen as difficult. Teaching may also be carried on despite these attitudes, with the teacher focusing on the satisfaction that they gain from the "good" students who share the teacher's academic interests:

The range of student interest in theory, so that there are different levels of academic inclination, that is quite frustrating ... One student wrote a really brilliant essay, ... I found that very rewarding. So those are the good students, and these other students that are younger, have much less life experience and don't have that hunger for knowledge. ... I am not sure that they are all that interested in learning. (Paula1)

Seen from the perspective of other ways of experiencing teaching, the way of experiencing teaching described in category C appears to have within it some inherent tensions or contradictions. Teachers seem aware that “good” students’ understanding involves relating the subject to their own experience, but seem to see teaching as something which prepares students for this by giving them the theory. This differs from the next category, in which teaching connects directly with students’ understanding and experience.

In summary, the critical aspects of this category compared with the previous ones are the focus on student activity and interaction as part of the act of teaching, the direct object of the procedures and competencies of the professional or disciplinary area and the intentions that students be active and participating in class and ultimately become able to apply the concepts and methods and be competent in the processes and methods of the profession or discipline. Compared with category B, in this category the internal horizon of teaching has expanded to include these critical aspects. Setting and giving feedback on assessment tasks may also be seen as part of the internal horizon of teaching. Whereas in categories A and B the external horizon included the attentiveness of students in class, assessment events, future subjects in the same course and the expectations of colleagues or the department, in this category the external horizon is the world of application. This world extends from application contexts within the subject to the contexts of the profession for which students are being prepared, or to the parts of the life world where disciplinary ideas may be encountered.

Category D: Teaching as a facilitative process of relating teaching to learning to help students to develop their own disciplinary or professional understanding.

In this category, teaching means facilitating the development of students’ understanding. Whereas in the previous three categories, teachers were teaching the subject to students, in this category teachers are teaching students to understand the subject. Students’ understandings and subject understandings are simultaneously in the foreground. Students are seen as coming to a learning situation with their own backgrounds, experiences, prior

knowledge and/or misconceptions and teaching involves helping students to develop their understandings further, correct misunderstandings and make connections between new ideas and prior experiences. Teachers' descriptions related to this category often suggest explicit awareness of variation between this and less complex ways of experiencing:

Teaching ... about helping students with their misconceptions and providing examples. Making it more real to them. Putting some - it into a context. So I guess all of that, you know. We like to look at ourselves more as facilitators here. ... So it's really to, I suppose, assist the students in their learning. So it's not as an information deliverer. It is somebody there with expertise in the area who can guide and assist the students so that they can achieve some meaningful understanding of the content. (Linda2)

Teaching and learning are seen as mutually interactive. The act of teaching is a responsive process involving genuine two-way dialogue:

Teaching to me I see as a facilitation process of interaction between myself and the students that I don't purport to have all the answers and they don't have all the answers either. But it is a two-way street, it is a dialogue, it is a series of questions that are asked, by myself as well to them, and I personally feel it needs to be quite a flexible and fluid process, but each group you teach is different and will have different requirements and a different set of needs as well. So I guess I see teaching as hopefully a healthy dialogue, where there is a lot of questions being asked, and hopefully a lot of pennies dropping, a lot of things have been worked out. (Kate1)

The indirect object of teaching is the development of students' understandings, which may involve overcoming misconceptions or broadening perspectives. A critical aspect of this category, compared with all of the previous three, is that students are seen as developing or creating their own understandings rather than acquiring or absorbing external understandings. Some teachers describe understanding in a way which suggests it is individually created. Knowledge, skills and application are structured, patterned, related or co-ordinated by learners to create an understood whole:

There's a whole. There's knowledge, there's skills and, you know, application of it, analysis, having it patterned in their mind or a method, model, whatever you want to

call it. So coming out, seeing something in terms of a bigger picture and being able to co-ordinate it, all in their own mind, into some kind of logical pattern or approach. If they come out with that, I'd be happy. And then, as far as I can see, they can build on that in practice. (Linda3)

Other teachers describe understandings which are socially created through engagement in interactions. One teacher from a social science area gave an explicit description of this, contrasting negotiated meaning with that which is external and absolute:

I believe the creation of meaning is largely a mutual act that happens between the student and teacher, student and student and student and the group. I don't believe in meaning as existing outside of people and I don't believe in meaning as being absolute sort of. Meaning as between us and being created at this moment and being negotiated. ... And again it's the skills that are involved in that process that students need to develop for learning to take place. You're not going to get the right answers, or get definitive answers, and if they're looking for that they're not in the right place for that development to happen. (Eric1)

There is also a longer term indirect object of teaching which extends beyond the skills and competency of category C and focuses on students becoming able to think more broadly in a professional way, which may differ from their current ways of thinking:

With history, my general feeling is that a lot of undergraduates go through seeing history as some rarified abstract, academic discipline that doesn't have ... a great deal of relationship to reality, whereas practising historians, professional historians ... know that history is about the present and the future, not necessarily about the past ... So it's trying to actually get them thinking as professional historians - about evidence, about their approach, about methodology, about ethical questions and how to use sources, ... So it is to get them to think and to articulate the questions. (Chris1)

In situations where students are learning new material, the aim is to help students to fit the new material into their own structures of understanding or models of the content being taught. The following description from an Engineering lecturer suggests explicit awareness of variation between students absorbing material and students finding a place for material in

their own minds, relating it to other things in a particular way and hopefully wanting to see it as “part of their world”. While the lecturer may present material, students have their own understandings of it:

[In] my lectures ... there isn't the pressure for them to try and absorb all this material during the lecture. It's really me helping them find a place for the material that we're covering in their own minds.

...

a student's understanding of the material that I present them with is probably, for the people who want to see it as part of their world, not just “here's a new device and slot it into the database”. It's “here's a new device” and it's related to all these other things in the database this way, in their head. So they might be able to see parallel things. We did a diode the other day and I said “it's just a, a non-return valve in mechanical piping” and they said “oh, that's what it is” It was almost like a sudden relief “Oh, that's what it does.” (Nick1)

There are also aspects of the act which seem similar to category C, including interaction, but the nature and intention of the interaction are qualitatively different. Interaction happens in a range of different ways, with slightly different focuses which tend to reflect differences in differences in discipline areas and the subject matter being taught. It may involve teacher-facilitated discussion where the focus is on negotiating meanings, even in quantitative subject areas. Teacher-student discussion is then seen as developing student understanding, whereas in category C it was about checking whether students had the correct understanding. Feedback from interaction is seen as necessary to guide what the teacher is doing:

a lot of the questions are actually discussion type questions rather than formula questions ... I might ask them in [the subject], what is meant by the concept of [], or the concept of [], so that they actually have to discuss it ... because I think that tends to develop understanding much more than just formula type questions.

- I. So how would you know that the students are developing that understanding?

I guess I don't really know how to answer that very well ... I think at the moment it is more just the feedback that you get and how well the students are discussing particular topics and the level of the questions that they ask - whether they show some sort of insight by the students into the problem, or whether they are just very superficial. ... that is something I would like to try and develop more, to try and be able to assess what is happening more. Because I think you need that to be able to guide what you are doing. (Matthew1)

Unlike in category C where the intention was for those who understood a particular perspective to explain it to those who didn't, a critical aspect is that teacher-student and student-student interaction involve comparing, contrasting, connecting or reflecting on different perspectives and understandings. This includes differences between the teacher's understanding and those of the students individually or collectively, or differences amongst the students:

I. What makes a good discussion?

Well, not having the instructor standing in front of the group and delivering a lot of information that basically the students could read for themselves. ... It's perhaps ... the instructor poses an interesting, relevant question and the students think about what issue was raised. And they share ideas. Like some people throw up "well I think I'd do this", and someone says "well I'd do it this way", and we can talk about, you know, which way might be a useful way of resolving a particular problem. ... I always try to say to the students "we've all got different backgrounds and different skills" and to look at more as a sharing of our ideas ... What I try to reinforce is, you know, some reflecting on "well, where does this all fit in?" ... We can read the rule, but what does it mean? Does it make any sense in the big picture of, you know, when you're running a [legal] case? So yeah, I guess a good discussion might be where that kind of thing is revealed. (Linda1)

Other forms of interaction may be aimed at helping students to link new material with their own experiences and may then inform what is taught:

In the lecture theatre, when I think it's appropriate or useful, I'll actually get the students to maybe do a bit of talking amongst themselves or in groups of 3 as well and then sort of take stuff from the students and run with that as well.

...

- I. And what was your intention in doing that?

My intention there was to sort of break the rhythm of the lecture of me just talking and talking and talking. I wanted to make it immediately personally relevant to each student cause I felt that better learning would occur then if they were sort of hooking it into their own experience. (Kate3)

A further critical aspect of the act of teaching, and part of the immediate indirect object, is mutual learning between the teacher and the students. This is typically brought about through interaction:

Well often the students have a lot of ideas to contribute that the lecturer doesn't and given that they have world experience to draw on, they bring each of their own perspectives to whatever it is that is being discussed. ... So the buzz group or small group discussion really enables all those different understandings to be brought out and shared. ... they also learn as much or more from their fellow students than they do from any one or combination of the lecturers. And I believe that very strongly and as I said earlier, we learn from the students themselves too. (Angela1)

The above descriptions illustrate further critical aspects of this way of experiencing teaching. The direct object of teaching is a relation between the students' understandings and experiences and the meanings, perspectives and methods of thinking of the teacher and the discipline. One critical aspect of this is seeing that student perspectives and experiences make legitimate contributions to what is taught and what students can learn. Critical aspects of the act of teaching include mutual learning by the teacher and students, providing opportunities for students to reveal their perspectives, and responding accordingly. A related critical aspect of the direct and indirect objects is that teachers are aware that students may have qualitatively different understandings, perspectives and relevant experiences from each other and from those of the teacher.

Descriptions of preparation for class sessions also referred to the need to be responsive to students' contributions. Preparation for a lecture includes organisation, but in a much more flexible way than was seen in category B:

I guess my preparation would be to make sure that my starting and end points are clear and that I have, that I know the key milestones along the 90 minutes or whatever. ... a lot of it depends, is always a function of how the students are going from one week to another. ... I find that all too often there are things which will influence exactly what I talk about or what I focus on during, and that will be from what the students are coming back to me with. ... So if I was too rigid with what I got ready for some week then of course that needs to be altered (Nick3)

Responding to students' understandings and experiences happens at multiple levels, with some teachers describing how they modified their subjects based on finding out about students' learning outcomes and responses from previous semesters. Unlike in category C, in this category it seems assumed that students' attitudes, aims and learning outcomes can be influenced by changes in teaching or subjects:

The [subject] that I have just finished redesigning ... We were teaching them a programming language and then we are also trying to teach them a lot of development methods that they could use to develop software. ... we have still been finding that the students sort of nod their heads and say "yes, this is all very interesting", but as soon as they finish that subject and start writing software in any other subjects, they throw that all out the window ... they just sit down at the computer and start typing the program in. So they usually end up with something that is fairly poor and we are trying to work out how we could make them accept the validity of these formal methods. ... so we have attacked that problem in a couple of ways. ... The new language that we're teaching them and the development process has a much more direct link between the real world that they are trying to model and the software ... so they can actually see or get a much better picture of the model in their mind ... be able to see that it is valid ... And the second change ... is we have added a lot more workshops and case studies and walk throughs and peer reviews. ... So we can actually use those to focus on why we do certain things and try and get them to understand the whole process a lot better. (Matthew1)

In summary, in this category teaching means relating teaching to learning to help students to develop their own understandings. Compared with previous categories, the critical aspects of this way of experiencing teaching are more complex and the act, object and indirect object of teaching more intertwined. The direct object of teaching is a relation between students' understandings and experiences and the understandings of the teacher, discipline or profession. The critical aspect is that students' prior knowledge and experiences are seen as legitimately contributing to and needing to be taken into account in what is taught.

The indirect object of teaching is the development of students' understandings and capabilities for thinking as professionals or people familiar with the discipline. One critical aspect compared with the previous categories is the awareness that students come to understand through developing or negotiating personally or socially-created knowledge and making connections with prior experience, rather than absorbing or acquiring external knowledge. A related critical aspect is the awareness that students' perspectives and understandings may be qualitatively different from those of the teacher rather than simply quantitatively different.

The critical aspects of the act of teaching are intertwined with the direct and indirect objects. There are three related critical aspects of the act. Firstly, teacher-student and student-interaction is genuinely two-way, involving comparing understandings and perspectives or synthesising ideas. Secondly, learning through the interaction is mutual rather than one way. The teacher uses interaction and learning activities to learn about students' perspectives and experiences and find out *how* students are understanding rather than simply whether they are understanding. Students also learn from each others' understandings and perspectives. Thirdly, teaching responds to students' understandings and experiences, whether this be immediately in a class or in the longer term by changing aspects of the learning environment. A related aspect in the thematic field of teaching is that students' ways of learning and learning-related attitudes are seen as open to variation in

relation to teaching, rather than being a function of relatively invariant student characteristics and motivations.

Teachers' descriptions related to this category are characterised by explicit contrasts between aspects of this way of experiencing teaching and a way of experiencing teaching as transmission. It could be interpreted that a critical aspect of this way of experiencing teaching overall is explicit awareness that it is a way of experiencing teaching, in contrast to other ways. Awareness of variation in ways of experiencing teaching may be necessary in order for teachers to experience teaching in student-focused ways

The internal horizon of this way of experiencing teaching includes multiple aspects, as outlined above, and focuses on the relation between teaching and the understandings and related life experiences of the students. The external horizon is the current or future professional or disciplinary world of the student and their lifeworld.

It is worth noting at this point that in constituting this category I have put together aspects which in other studies are seen as aspects of separate categories. Aspects such as helping students to structure their understandings, helping them with their misconceptions and helping students to learn from other points of view are seen here different ways of working towards the common goal of helping students to create their own understandings of the discipline or profession. From my perspective they reflect variation in aspects of the teaching contexts experienced by the teachers rather than variation in ways of experiencing teaching.

One aspect of the context is the nature of different disciplinary knowledges and therefore the sense in which understanding and coming to understand have different flavours in these different disciplines (Biglan, 1973). In "hard" discipline areas which are single-paradigm and abstracted from human experience, such as Engineering, teaching focuses more on helping students structure their understandings and overcome misconceptions about the subject. In "soft" multiple-paradigm disciplines which are more connected with human

experience, such as social sciences or law, there is a greater focus on helping students to learn from other points of view, particularly when the students bring with them a diversity of work or life experience.

Category E: Teaching as guiding students to explore and develop professionally and personally and become independent as learners

This category differs from Category D in that the meaning of teaching extends beyond helping students to develop their own understandings of the disciplinary or professional area to helping them to become independent learners, develop self awareness and grow as people. There is more focus on learners as individuals. Teaching is often described as guiding, facilitating, enabling, prompting or providing an environment for learning. Like in category D, teachers may contrast this with a view of teaching as telling. Students are seen to learn best by exploring, discovering and experiencing ideas, processes or practices but being guided in their exploration.

to me teaching is, as I have indicated before, a matter of guiding students in their own self-learning process. Enabling them to learn and to know, to gain the skills to be able to learn in the areas that they identify they want to learn in, they need to learn. As well as providing them with the guidance of some basics of where they need to learn and setting it up so that they can learn independently basically. So teaching is really more a matter of providing a - getting them to understand and adopt and learn an approach to knowledge and information gathering and all of that, rather than fill the empty vessel, I've got to know it all myself. (Angela1)

The direct object of teaching includes the relation between the student's understanding and disciplinary or professional understandings, as in category D, but the internal horizon broadens to include other aspects of the student's personal, intellectual and learning development. Unlike in previous categories, the direct object of teaching includes things that students personally want or need to learn. The external horizon includes the student's current and future lifeworld.

It's not just about topic and content but it's also about personal development and personal intellectual development as well. I think I'm finding now I tend to spend a bit more time trying to locate people where they are in their own sort of life cycle and their own sort of learning development. (Chris2)

As the above examples illustrate, the act of teaching in this category includes encouraging students to learn independently, trying to find out where individual students are in terms of their learning and personal development and guiding them to develop further. The act of teaching also includes aspects related to previous categories, but extends beyond them. Teaching also includes student-student interaction for the purpose of learning from each others' experiences, but the scope of what can be learned from is broader than in category D, extending into the professional and personal worlds of the students. The act of teaching may include creating opportunities for experiential learning, where the indirect object focuses on students becoming more aware of their own feelings, values and actions, or discovery-based learning where the aim is that students will have personal ownership of knowledge:

My responsibility was to provide an environment in which they could see some examples of the process. Experience a process which they went through themselves ... and hopefully draw up their own map of a process and thereby own it themselves. ... I mean I didn't care whether it was not written in a book, as long as they had it in their own mind. (Ray2)

Another aspect of teaching related to this category is discussion or negotiation with students about learning itself or the way that a learning situation is designed. One example was given by a lecturer who was using peer-assessed student-led seminar discussions for the first time:

in retrospect I think now, a large part of that setting up could have been negotiating, to some extent, the structure with them or the criteria of how they might review it. I think that it should have been negotiated with them more than it was.

...

This is my first run through with it, and I'm still finding my way in terms of what's appropriate for me, you know, when do I step in, when do I leave things alone.
(Lissie2)

The balance between passive guidance and active intervention is seen as a challenge in some descriptions of teaching in this category, with more passive guidance or facilitation usually described as the preferred option.

As illustrated in the descriptions above, the indirect object of teaching in this category is complex. It is focused on students becoming independent learners and developing as people. As independent learning is important, teaching includes preparing students to become independent learners if they are perceived to be not yet ready for that role.

I feel one of the things we have to move them into is a self-motivated, self-directed working situation, a situation where they are learning for themselves ... I feel that we should be spending more time having contact time with the students in the earlier years preparing them for self-learning later down the course (Sarah3)

As with previous categories, there are aspects of the indirect object of teaching as a whole which relate to broader contexts outside the world of the university. One aspect relates to the professional world and focuses on students becoming able to build on and develop their own professional knowledge and experience to enable them to act in a professional way:

...one should be stimulating students to do things for themselves, to build on their own knowledge and their own experiences, to act in a lawyerly fashion when confronted with particular problems and circumstances. (Barbara2)

A second aspect is focused towards the students becoming lifelong learners beyond the course, where the context is both the professional and personal worlds of the student:

I think I've probably got a greater motivation now in my teaching to get students to go on with their learning ... So learning becomes much more of a lifelong thing. ... That you can learn and be motivated to learn for the sake of learning, for the progression,

for your own interest, for your own mental health perhaps. You know, that you shouldn't, you shouldn't just stop (Nick3)

A third aspect focuses more broadly again on the students becoming critical thinkers, developing their world views and developing personally through becoming more self aware. The external horizon includes both the lifeworlds of the students and the broader society

I think the bottom line, our mission is to actually educate and to illuminate (pause) ... Not to indoctrinate them into ... any particular sort of ideological approach but to actually get them thinking about, and become critical, in a positive way become critical thinkers. And I think that, I'd say is the bottom line of education, to develop our social capital so to speak. (Chris 1)

In summary, the critical aspects of teaching in this category compared with previous categories are the act of teaching as guiding or creating situations where students can explore, discover, think for themselves or learn independently, the direct object of teaching as a relation which goes beyond students' understandings of the discipline or profession to include their own wants and needs and stages of personal and learning development, and the indirect object of students' disciplinary, professional, personal and learning development. The internal horizon of teaching includes all of these aspects and the external horizon includes both the professional and lifeworlds of the students and the broader society in which students are being educated.

Category F: Teaching as challenging and enabling students to change the relation between themselves and the world.

In this category, teaching means "moving people beyond where they already are" and challenging them to reflect on, rethink and change the way they experience their world.

Whereas in category D, teaching focuses on helping students to develop their own understandings, and in category E it includes helping students to develop their worldviews and develop personally, in this category the focus is on change in students' worldviews.

Teaching is about students coming to experience the world in different and empowering ways. Learning goes beyond the personal development of category E to include being empowered to make choices and gain personal control. Like in categories D and E, teaching relates to learning, but with a broader range of responsiveness to different learning situations. The act of teaching includes aspects of previous categories but goes beyond them:

I don't see teaching as just being a facilitator. There's room for that, but it's just one of the roles rather than the role. It's really what I've said before. Teaching is about moving people beyond where they already are into looking at the world differently. Using a different framework perhaps. And engaging people intellectually. Enabling them to use that new knowledge in a practical way that's relevant to their context. And ... learning is the flipside of that coin. (Sophie1)

Teaching, well teaching is - for me is - someone who can, perhaps well guide you through, information, who can perhaps facilitate you in finding answers to the questions that you are seeking. Who can sometimes enthuse or inspire you. ... I think it's perhaps to open up - to help you open up new avenues of thinking about things and perhaps look at a problem or the world in general. I mean for me [as a student] it was looking at, perhaps another way of seeing the society I suppose. And questioning things, you know, which is something that I had never done. ... I mean sometimes it's a bit scary in that all the things you'd always accepted - norms were challenged and - but it was good. In retrospect it's a good thing ... I think that's to me a teacher who can do those kind of things. (Linda1)

For the first time in any of the categories, a desirable learning environment is seen as one in which learning is not necessarily enjoyable all of the time. As learning involves a deep change in worldviews, it can be demanding, challenging and confronting as well as exciting and rewarding:

Well I suppose accepting that there's going to be a movement from where you are now and how you see things now to a new point, which might be uncomfortable along the way and it might be slightly destabilising and at the same time can be very exciting

(pause) but there has to be a shift, I mean a deep shift in the sense of looking at things differently from before. (Sophie2)

they're not just seeing something as "oh, that's useful" or "that's practical" or "I could use that trick in my classroom". They're actually viewing something in a different way than they have before. Sort of, demystifying or unlocking the society that they actually live in but maybe haven't reflected on it in the same way as they are now with a new framework or new theory. (Sophie1)

The indirect object of teaching is that students will experience and be able to act in their world differently. If students can move on to new ways of experiencing the world and have more choice and control in the way they live their lives.

Look, I mean, I suppose I have a very strong feeling that many people are not aware of how their own language works and to me that's worrying because it means a lot of people don't have control and they aren't exercising choice. ...Because to me language is very powerful and it's very unconscious so people don't realise how powerful it actually is. And if they can begin to see that, and have a way of talking about it, and therefore exercising control over it, then that's quite a valuable asset. (Sophie1)

New ways of experiencing also enable students' personal growth and development, as students become capable of changing themselves. For another teacher, teaching meant:

a change of students' paradigm can take place in terms of, well, learning if you like. And also, well as part of that learning, they can change themselves. As people grow they have, can have, control of that. (Ray3)

Teaching involves more than guiding students in what they want to do. The teacher perceives a need to know more closely about ways in which students experience their world as starting points for helping them to experience it differently. Students also need to be helped to experience a personal context which make it relevant for them to learn and take on new perspectives:

They see language as being, or grammar rather, as being rules. Whereas I'm looking at language in different ways, as being to do the appropriacy and choices. So, it's hard, you know, moving them on from a particular position that they've had for fifty years of their lives.

I. How do you move them on?

Well, through these activities and through making things very relevant to their own classrooms. ... the starting point of course is for them to see that literacy and control over language is important in terms of people being empowered. ... I set up an activity in which they can see one text is more successful than another, and they can vaguely intuitively say why. But those sorts of comments, they also recognise would not be helpful to students in terms of moving them on. So they then see the need for a set of tools to help them specifically teach their students and intervene. (Sophie1)

Teachers' descriptions refer to a range of ways in which they make explicit use of variation for learning, although they do not describe it using these terms. The following description includes examples of variation between different students' use of language, variation in different cultural uses of language, variation in interpretations and then variation between language use, intention and construing:

I. Can you give me perhaps an example of the sort of thing that you feel helps your students to have that kind of "oh, now I see this differently"?

I suppose even by commenting on their own use of language and picking out patterns without personalising, victimising ... opening up how different people make different choices and therefore construct themselves differently. ... And then you can make comparisons with someone from another culture coming here, where in the culture the patterns are kind of different ... and then get them to reflect on situations where they felt someone was sort of too categorical or too direct or what they regarded as impolite and then sort of lead it back to "Well it's the language, it's not necessarily the intention. It's the way we construct things." ... I've tried to make the starting point observations about them, because people are always interested in how other people see them anyway, and then get them to reflect from that point. See observations that

they've made and then sort of draw out of that the theory I guess. I mean, that was, that's one way round, anyway. (Sophie2)

While students' experience is valued, as in categories D and E, in this category the teacher's intention is to challenge students' perspectives:

I think you have to think of situations which challenge the way they think, rather than just put them in a situation where they will go for a very obvious solution. Which really doesn't teach them how to approach the problem in more constructive ways. (Sarah2)

The direct object of teaching in this category is also complex. It can be seen as a relation between disciplinary ways of experiencing the world and students' current and future ways of experiencing the world. There seems to be a stronger emphasis on disciplinary understandings than in the previous category, but this does not mean that teaching in this category is less focused on students' learning. Disciplinary understandings are seen as powerful ways of experiencing the world, so when students experience a deep shift in their own disciplinary understandings they gain more control in their lives and become empowered.

For Sophie, who exemplifies the way of experiencing teaching described in this category, engagement with students is also a form of action research, with potential for it to affect the further development of the disciplinary field:

Obviously you have to believe in what you're putting forward, whether it's a theory or whether it's you know a classroom application. So there has to be that level of commitment and enthusiasm and you also have to recognise that different people are going to see that theory in different ways and obviously be resistant or be critical. And that's part of the process too. And that feedback, that kind of action research is really important in the work that I do anyway. I mean with the ... theory I use it's still going forward. It's developing all the time. So for people to actually, you know, present their comments and feedback actually influences how that gets shaped too. (Sophie1)

In summary, the critical aspects of teaching in this category are the direct object as a relation between disciplinary/professional ways of experiencing the world and students' current and intended future ways of experiencing the world, the act of teaching as challenging and responsively moving between different roles and the indirect object that students will come to experience the world differently. The internal horizon includes the teacher, the students and the complex of ways of understanding, experiences, theoretical perspectives, desires and opinions that everyone brings to the teaching-learning interaction. The external horizon is the students' future life and professional worlds and potentially the future development of the discipline.

Relations between categories

In describing the individual categories above, I have tried to show both the critical aspects of each category and some aspects of the relations between the categories. Each category describes the critical aspects of a particular way of experiencing teaching. Each category is constituted from a different pattern of aspects with a different intertwined meaning, but each is also related to the others through the relations between their patterns of aspects.

In this section I will describe how I have constituted the relations between the categories from three different perspectives, focusing first on the logical overall relations between the structural and referential aspects of the categories as wholes, secondly on the the relations as described in individual teachers' transcripts, and thirdly through a more detailed description of the relations between the critical aspects of the categories and their associated dimensions of variation. The aim of examining these sets of relations is to describe in more detail the differences between teacher-focused and student-focused ways of experiencing teaching and therefore the critical aspects and related dimensions of variation which teachers need to become aware of in order to experience teaching in a student-focused way.

The structure of the outcome space: logical relations in structure and meaning

Considering the categories overall, from category A to category F there is an expanding complexity in the pattern of aspects included within the phenomenon of teaching as experienced. Structurally the categories form a logically constituted inclusive hierarchy in which the expanding complexity of aspects is accompanied by a shift in focus within the pattern of aspects. The change in structure and focus is related to the qualitative change in the meaning of teaching between the six different categories. The relationship between the structural and meaning (referential) aspects of the categories overall is shown in the outcome space in Table 5.1.

As with previous studies of conceptions of teaching (Prosser, Trigwell and Taylor, 1994; Martin and Balla, 1990; Dall'alba, 1990) and teachers' beliefs about teaching (Samuelowicz and Bain, 1992, 2001) there are major changes in structure and meaning between more teacher or teaching focused or more student or learning-focused ways of experiencing teaching. In this study, categories A, B and C are more teacher focused and D, E and F are more student focused. In terms of the structure of a teacher's awareness, there is both an expansion in the number of aspects of teaching which are simultaneously in focus, a change in the relation between these aspects and a shift in focus between each category. The strongest shift in focus is between category C and category D.

Table 5.1: Relations between categories of description for ways of experiencing university teaching

Structural → Referential ↓	Teacher focused		Student focused		
	Teaching and content focus	Activity focus	Student understanding focus	Student development focus	Student change focus
Transmitting	A				
Organising and explaining	B				
Helping students to acquire and be able to use concepts and methods		C			
Helping students develop their understanding			D		
Guiding students to explore and develop				E	
Challenging and enabling students to change					F

The act of teaching is structurally hierarchically inclusive through all six categories. The internal horizon of the act expands from category A to category F and the focus of the act shifts progressively. The act of teaching includes telling and making it interesting in category A, then organising and explaining are added in category B, student activity and interaction in category C, two-way interaction, mutual learning, finding out how students are experiencing and taking this into account in category D, guiding independent learning and facilitating personal development in category E and challenging students' understandings in category F. As can be seen in the category descriptions, this structural inclusiveness means that some of the teaching strategies used in more complex ways of experiencing teaching are also used in less complex ways of experiencing, but with different indirect objects. The act of teaching in categories D, E and F includes telling students things, but teaching is not just telling.

The direct and indirect object of teaching are also hierarchically inclusive, but there is a stronger shift in focus and meaning between categories C and D. The direct object of teaching in categories A to C is external knowledge. What is taught broadens from elements of information in the syllabus, textbooks and the teacher's notes (A), to the applications and competencies of the profession or discipline from which examples, readings and teacher experiences are drawn. The indirect object is that this knowledge is transferred to students (category A), acquired by them (B) or gained by them through application and practice (C).

There is a shift in focus between category C and category D. In categories D to F the direct object of teaching is a relation between disciplinary or professional knowledges and ways of thinking, and students' understandings and experiences. Students are seen as developing or changing understandings rather than acquiring them. The indirect object is that students will relate what they are learning to their prior understandings, and develop or change their understandings.

In relation to current literature on conceptions of and beliefs about teaching (Kember, 1997; Samuelowicz and Bain, 2001) it is relevant to look at the whether any of the categories could be considered as intermediate between teacher-focused and student-focused. If the categories are considered in terms of the act of teaching, then category C could be said to occupy an intermediate position. In this category, the act includes students' activity and participation and their interaction with the teacher and each other. Teaching does not involve students being passive recipients of information, as they are in categories A and B, but nor does it involve the teacher in finding out about and engaging with students' experiences and understandings as it does in categories D to F. When aspects of the direct and indirect objects of teaching are considered simultaneously with the act, or when the overall meaning of teaching is considered, category C can be seen as more related to categories A and B than to categories D to F. For example, interaction in category C may be two-way in terms of the act of talking, but learning only happens in one direction. Those who do know, teachers or good students, give knowledge to students who do not know.

In categories D to F, interaction is about bringing teacher awareness and student awareness into contact to help students to learn (cf Marton and Booth, 1997) and learning is mutual.

The relations between categories indicate that change from a teacher-focused to a student-focused way of experiencing teaching means a change from experiencing teaching in the ways described in categories A, B or C, to at minimum that described in category D.

Relations discerned in teachers' descriptions

The overall relations between the categories described in the outcome space above were discerned both logically, through the process of iterative comparison, and empirically, from individual teachers' descriptions. Teachers whose descriptions related to more complex categories also usually described aspects related to less complex ones. This is expected if we assume that the teachers' interview accounts reflect the aspects of their awareness of teaching which come to the foreground and are articulated in the interviews. More complex ways of experiencing teaching imply awareness of progressively more aspects of the phenomenon of teaching (Marton and Booth, 1997).

Relations between different ways of experiencing were described by teachers in several different ways. One is when aspects related to the less complex ways of experiencing were described as only part, rather than all, of what teaching means in a more complex ways of experiencing. Several examples were given as part of the category descriptions for categories B to F. The following example from Sophie illustrates this point more explicitly. Her teaching includes facilitating (category E) and providing input (described in terms of category D in her transcript as a whole) but being a facilitator and allowing people to develop is not enough in itself to move students on, an aspect which relates to category F:

I don't see myself as a facilitator all of the time. But of course some of the time. So I see the role within any session changing. There's a rhythm. You move from being a facilitator to a teacher who provides input. You know, the normal spectrum of teacher as evaluator, teacher as facilitator, teacher as interventionist, teacher as whatever

else. So I don't have a fixed idea of a teacher, although I do feel quite strongly that to only be a facilitator is not a useful model.

I. Why is that?

Because, I've seen it happen in high schools and I've seen the results and it's pitiful because the teacher stands back and then students just stay exactly where they were or are, they don't move on. I mean, this is in the area of Language. I'm not saying it holds across all learning areas. But it's, yes, it's this idea of "let's share what we already know", which is a fantastic starting point, but "let's not go beyond that. Let people just sort of develop in their own way at their own pace." It doesn't happen, I don't think, unless you come in and actually make that process happen. (Sophie 1)

From the above account, it can be inferred that Sophie's awareness of teaching includes aspects of at least categories D, E and F and that she sees the relation between them as inclusive. Her reference to teaching not being just facilitation is unique amongst the teachers interviewed, as she contrasts "facilitation" and challenge rather than facilitation and transmission. A more typical pattern of contrast can be seen in the following description from Matthew. He explicitly contrasts student-focused facilitation (categories E and D) with teacher-focused forms of teaching which involve spoonfeeding bits of knowledge (category A):

I. So what does facilitating a student's learning mean to you in the context of the subjects that you teach?

I guess a whole range of things. Helping them to understand the material, understand the concepts, understand the subject, I guess that means try to identify where their misconceptions are and trying help them come to grips with those. ... Not, not holding their hands but, I don't think that's right, but basically helping them take responsibility for their learning. I think another problem's often the case is we spoonfeed them too much, we sort of you know "they're only students they don't really matter they're not really capable so we'll keep feeding them bits of knowledge" and ... well whatever knowledge they do gain they don't really own. It's just something someone has given them ... so I think if you're going to facilitate the learning then it should be much more helping them sort of learn it for themselves. (Matthew2)

This contrasting of facilitating or guiding learning with transmission or spoonfeeding is very common in descriptions related to categories D, E and F. This provides evidence for a hierarchically inclusive structure of teachers' awareness of teaching which relates to the categories, but it also suggests that being aware of variation between teacher-focused and student-focused ways of experiencing teaching is itself critical for experiencing teaching in a student-focused way. Teacher-focused ways of experiencing are described by teachers either as something which teaching is not, or in ways which suggest that it is perceived to be more limited or less desirable.

A less common form of comparison focused on what should be taught and what students should learn. The following example contrasts a focus on teaching complex and critical understandings which are harder to teach and assess (category D), with teaching information, skills and applications which are easier (categories A and C).

There's a lot of material that we teach at the Uni and in a lot of cases, we sort of say there's a specific body of knowledge or a specific technique or specific skill or specific, understanding a specific language, syntax or whatever it is. ... because it's easy to teach that, well, not easy to teach it, but it's easy to transmit that sort of information and it's easy to evaluate whether the students have sort of absorbed it, then you focus on that. ... But the workshops are trying to sort of come out in the opposite direction and say "OK, we've been doing that for years and the students still develop terrible software". ... I guess what the workshops are doing is trying to say "OK why do you do it that way? what's the implications of it? how does that contribute to sort of achieving the objectives - what you're trying to, you know, develop in software?" And I guess even going one step further back, "why are those objectives reasonable? Why you want to do that in the first place?" the point of it all. ... looking at that understanding that's harder to evaluate and harder to assess.
(Matthew2)

As the above examples illustrate, the teachers' descriptions provide evidence that teachers who are aware of more complex ways of experiencing are also aware of aspects of the less complex. From this perspective, change from less to more complex ways of experiencing is

an expanding teacher awareness (Martin and Ramsden, 1993), accompanied by an overall shift in the focus and meaning of teaching. In many teachers' descriptions, there is also an contrast between more and less complex ways of experiencing teaching. A student-focused way of experiencing teaching is explicitly not a teacher-focused way.

Critical aspects and dimensions of variation

Awareness of each way of experiencing teaching implies awareness of a pattern of critical aspects which together give teaching its structure and meaning. For teachers to change their ways of experiencing teaching, they need to simultaneously discern and focus on the critical aspects of the new way of experiencing. To do this they need to have experienced variation in the corresponding dimensions. This section summarises the critical aspects of each way of experiencing teaching and the related dimensions of variation. Critical aspects and dimensions of variation were identified through the teachers' descriptions, as I have tried to show in the category descriptions. In some cases descriptions suggested explicit awareness of dimensions of variation, such as when a teacher contrasts telling with facilitating or absorbing knowledge with developing understanding. In other cases awareness of dimensions was implicit, for example mention of students' perspectives or misconceptions implies variation in the dimension of perspectives or conceptions, and mention of two-way interaction implies awareness of one-way.

Table 5.2 summarises the critical aspects of the six categories, using italics to highlight the aspects which differ between successive categories. Dimensions of variation which relate to awareness of these aspects are explained in the text. This means that, unlike in Samuelowicz and Bain's (2001) analysis of belief dimensions, each dimension of variation is *not* represented in each category. Some dimensions have different aspects or values across five of the six different categories, such as the dimension of the direction of teacher-student communication. Other dimensions are not present in some or most categories, such as the dimension of worldviews which appears only in category F and is taken for granted in the

other categories. Overall, the number of dimensions of variation expands from category A to category F, relating to the expansion in teachers' awareness.

Critical aspects of the direct object of teaching relate to dimensions of variation in the organisation and scope of the subject matter and to dimensions related to whether and how students' understandings and perspectives are taken into account in what is taught. In category A, what is taught is experienced only as elements or fragments of subject matter, with variation in the dimension of the quantity of these which can be covered in teaching. In category B, the critical aspect is the organisation of the subject matter and the part-whole relations within it. Teachers are aware of some variation in how the content is structured, ordered or organised for teaching than taking this for granted. In category C, the critical aspect is the applications and competencies of the discipline or profession which were taken for granted in categories A and B. There is variation in situations of application between the classroom and the world of practice.

In categories D to F, what is taught is a relation between disciplinary and teacher understandings and perspectives and students' perspectives and understandings. The critical aspect of category D is that students are seen as having prior experiences, perspectives or misconceptions which need to be taken into account and which can legitimately contribute to what is taught. Awareness of this critical aspect characterises awareness of the direct object of student-focused ways of experiencing. Teachers are aware of variation in students' prior experiences, perspectives and conceptions. In category E, the critical aspect is that students' wants and levels of personal development are taken into account and teachers are aware of variation in these dimensions. In category F, the critical aspect is students' overall worldviews and teachers are aware of variation in worldviews.

The dimensions of variation in the direct object of teaching seem to most closely relate to the overall external horizon of teaching. This expands from the context of the course of

study and its assessment in categories A and B to the discipline or profession in the world in category C, to include expanding aspects of the students' lifeworlds in categories D to F.

Table 5.2 Critical aspects of ways of experiencing in relation to the direct object, indirect object and act of teaching

Category →	A	B	C	D	E	F
Direct object: What is taught experienced as	Taken for granted elements of information within the subject	A <i>connected</i> structure of knowledge within the subject	A connected structure of knowledge <i>extending to the discipline or professional field</i>	A <i>relation between the teacher's professional or disciplinary understandings and students' experiences and understandings</i>	A relation between the teacher's professional or disciplinary understandings and students' experiences, understandings, <i>wants and levels of development</i>	A relation between the teacher's world views and <i>students'</i> experiences, understandings and <i>world views which is open to change</i>
Direct and indirect object: Differences in students' understandings and perspectives	Not present	Student understanding is <i>present (the same as teacher understanding) or not present</i>	Student understanding <i>varies quantitatively – students have more or less of the teacher's understanding</i>	Student understanding and perspectives <i>vary qualitatively – students have different perspectives and experiences</i>	Student understanding and perspectives <i>varies qualitatively – students have different perspectives and experiences</i>	Student understanding and perspectives <i>vary qualitatively – students may have different world views</i>
Indirect object: learning in relation to teaching	Knowledge is passed on	<i>Students acquire</i> knowledge	Students <i>acquire, can apply and develop competence in using the</i>	<i>Students develop their own frameworks of understanding of the discipline/profession</i>	Students <i>develop their frameworks of understanding of the discipline/profession</i>	Students <i>change their way of experiencing the world and become</i>

				<i>concepts and methods of the discipline/ profession</i>	<i>discipline/profession</i>	<i>and develop as professionals, learners or people</i>	<i>empowered</i>
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Category →	A	B	C	D	E	F
Act of teaching: Nature of the act	Transmitting (and trying to make it interesting)	<i>Explaining organised content</i>	<i>Explaining and managing student activity and participation</i>	<i>Facilitating, involving comparing meanings, mutual learning and responding, contrasted with telling.</i>	<i>Facilitating and guiding independent learning, contrasted with telling and intervention</i>	<i>Challenging and facilitating, contrasted with just facilitating</i>
Act of teaching: Direction and purpose of teacher-student and student-student communication	Not present (One-way transmission is taken for granted)	Some two-way – <i>student initiated - for students to ask and teachers to reply to questions</i>	Two-way – <i>teacher-initiated - to check on understanding, ask questions and manage student activity</i>	Two-way to compare and synthesise meanings	Two-way to compare and synthesise meanings and guide learning and development	Two-way to negotiate, challenge and change meanings
Teacher awareness of variation in ways of experiencing teaching	Not present	Not present	<i>Variation in the act of teaching - participation and activity compared with its absence</i>	<i>Variation in ways of experiencing teaching</i>	<i>Variation in ways of experiencing teaching</i>	<i>Variation in ways of experiencing teaching</i>

A second set of critical aspects and dimensions of variation relates to the indirect object of teaching - what teaching aims at and seeks to bring about. These include aspects and dimensions related to how students come to understand, and imply aspects of the nature of knowledge, learning and understanding. They are intertwined with aspects of the direct object. In category A, teaching aims at passing knowledge on, with variation only in whether the knowledge has been passed on or not. In category B, the critical aspect is the focus on students acquiring the knowledge, with variation in whether or not it is acquired. In category C, the critical aspects are student participation or activity in class in the short term, and students being able to apply knowledge in the longer term. Teachers are aware of variation in whether students are participating or not and in how much students have acquired and can apply. Implicit in these three categories is that knowledge has a taken-for-granted external character. Knowledge and understanding are seen as things which can be given to students and acquired by them through taking in, absorbing and digesting (B) and then applying (C). Learning implicitly is seen as acquiring and then applying.

In category D, the indirect object of teaching focuses on development or change in students' understandings. One critical aspect which separates this and other student-focused categories from those which are teacher-focused is that students are seen as putting things together for themselves, constructing, making connections, relating to prior experience, negotiating meaning and thinking in particular ways. There is awareness of variation in how knowledge and understanding come about. Students personally develop understanding through creating their own meanings and transforming information rather than simply acquiring untransformed external knowledge. This can be seen as relating to a difference between seeing student learning as acquiring and applying and seeing it as students' developing their own understandings and ways of applying their understanding. A related critical aspect is that students' understandings and perspectives are seen as potentially being qualitatively different from teacher understandings and perspectives. There is awareness of qualitative variation in the dimension of perspectives and understandings – students can know differently or partially rather than simply knowing more or less. Depending on the subject matter and the nature of students' understandings and

perspectives, differences might be seen as misconceptions to be addressed or as legitimate differences in perspectives and experiences.

The critical aspect of the indirect object in category E is an extension of that in category D, with the focus on students' broader professional, personal and learning development. There is awareness of variation in students' levels of development. In category F, the critical aspects are the intention that students will see the world differently and become empowered. There is awareness of variation in worldviews, and variation in the nature and affective aspects of learning. Learning is seen as involving challenge and change which may be confronting rather than always enjoyable.

A third set of aspects and dimensions relates to the act of teaching. This set includes dimensions related to the direction and purpose of teacher-student communication identified in previous studies (Prosser, Trigwell and Taylor, 1994; Samuelowicz and Bain, 1992; Samuelowicz and Bain, 2001). It is most similar to Samuelowicz and Bain's more recent study (2001) in focusing on the intention of two-way interaction rather than simply whether it occurs.

In category A, the act of teaching is transmission, with variation in whether transmission has taken place or not and in transmission clarity and interest. The direction of transmission is not a dimension of variation in this category, as this would imply awareness of directions other than one-way. In category B, one critical aspect is explanation, with variation in the explanations which can be given as well as in their clarity. A second is student-initiated two-way interaction in which students ask questions and the teacher replies or re-explains, with variation in whether or not questions are asked. In category C, the critical aspects are student activity or participation and teacher-initiated two-way interaction for the purpose of checking understanding, with variation in the extent of student participation and variation between telling students and getting them to participate.

There are three inter-related critical aspects of the act in category D, the first student-focused category and collectively they constitute the act of “facilitating learning”. Teacher-student and student-interaction are genuinely two-way for the purpose of comparing understandings and perspectives or synthesising ideas. There is explicit variation between two-way and one-way communication and simultaneous awareness of variation in students’ perspectives (related to the indirect object of learning). Secondly, and related to this, the teacher uses interaction and learning activities to learn about students’ perspectives and experiences and find out what and *how* students are understanding. Students also learn from each other’s understandings and perspectives. There is awareness of variation between mutual learning and one-way learning. Thirdly, teaching responds to students’ understandings and experiences, with implied variation in the kinds of responses possible. In category E, the critical aspect of the act relates to guiding learning with variation in the extent to which students are independent or teachers intervene. In category F, the critical aspect of the act is challenging and there is explicit awareness of variation across the spectrum of acts of teaching from telling to facilitating to challenging and moving students on.

A final dimension of variation differs from those described in previous studies. This dimension focuses on variation in the overall meaning of teaching and is intertwined with variation in the structural aspects of ways of experiencing. Awareness of this dimension as a dimension of variation is a critical aspect of student-focused ways of experiencing. In teacher-focused categories A and B, the meaning of teaching itself does not appear within the teachers' accounts. It is simply taken for granted. In category C, teaching which involves interaction, student participation or activity is sometimes contrasted with teaching which does not involve these activities. Teachers appear to be aware of variation in the act of teaching but not of variation in the overall meaning of teaching. In categories D to F, there is explicit awareness of variation in ways in which teaching can be experienced. Teaching is seen as facilitating, guiding or challenging rather than transmitting or telling.

Chapter summary

In this chapter I have described the six qualitatively different ways of experiencing teaching which I have constituted in relation to the transcripts of teachers' interview accounts, and the relations between the categories. Within the thesis, one purpose of this chapter was to describe the patterns of complementary aspects which are discerned when teachers experience teaching in a particular way, the differences in these patterns of aspects which relate to differences between ways of experiencing and therefore the changes which correspond to changes in ways of experiencing.

In terms of the structure of a teacher's awareness, a way of experiencing teaching consists of a pattern of aspects which are simultaneously and focally discerned and which give teaching its experienced structure and meaning. A change in a teacher's way of experiencing teaching means a change in the structure of their awareness. According to the ideas of variation and learning (Marton and Booth, 1997), in order to become aware of a more complex way of experiencing teaching a teacher will need to simultaneously discern and focus on the critical aspects of that way of experiencing by discerning variation in the corresponding dimension. For them to discern a critical aspect, they need to have experienced variation in the dimension corresponding to that aspect, be able to separate it from the context in which it is embedded and see it as an aspect of teaching.

As the categories are hierarchically embedded, changing a way of experiencing teaching from teacher-focused (categories B or C) to student focused (categories D, E or F) means at minimum becoming simultaneously and focally aware of the pattern of critical aspects of category D and of variation in the corresponding dimensions. Becoming aware of teaching as experienced in categories E or F means becoming aware of the critical aspects of these categories in addition to the critical aspects of category D.

In category D, teaching means relating teaching to learning so that students develop their own disciplinary or professional understandings. The corresponding pattern of critical aspects is:

- Awareness that students' prior knowledge and experiences need to be taken into account and can legitimately contribute to what is taught, rather than the teacher being the only source of knowledge;
- Awareness that students come to understand through developing their knowledge, interpreting and making connections with previous knowledge, rather than absorbing or acquiring untransformed knowledge;
- Awareness that students' understandings and experiences may be qualitatively different from each other and from the teacher's understandings rather than simply absent or quantitatively different;
- Two-way teacher-student and student-student interaction which involves: comparing understandings and experiences, rather than giving and checking understanding; finding out about how students experience or understand the subject rather than simply whether they understand; responding in ways which relate to students' understandings and ways of experiencing.
- Being explicitly aware of variation between student-focused and teacher-focused ways of experiencing teaching. Teaching as facilitating, guiding or helping students to learn is understood explicitly to be not just telling or transmission.

The next chapter focuses on change in teachers' ways of experiencing teaching from teacher-focused to student-focused. It describes patterns of critical experiences through which some teachers became simultaneously and focally aware of the critical aspects of student-focused ways of experiencing teaching, and/or became capable of experiencing them in their teaching situations. It also describes the teachers' orientations towards the situations in which these experiences occurred and the ways in which these relate to change in ways of experiencing teaching.

Chapter 6

Change in teachers' ways of experiencing teaching

This chapter focuses on whether and how change occurs in university teachers' ways of experiencing teaching in their teaching situations. Change in this sense includes becoming aware of a new way of experiencing teaching for the first time, or seeing it as possible to experience teaching in a new way in a situation in which it was not seen as possible before.

In looking at whether change occurs, my focus is on whether there was evidence of change from teacher-focused to student-focused ways of experiencing teaching (or the other way around) across the set of two or three interviews from each teacher. On the basis of the categories described in the previous chapter, this means a change from experiencing teaching in ways related to categories A, B or C to experiencing change in ways related at least to category D (or vice-versa). To then examine how change happens, I take a second order perspective in relation to accounts from teachers whose ways of experiencing teaching became or remained student-focused in relation to their teaching situations. This perspective involves focusing on the experiences that these teachers described as influencing or relating to change in their ways of thinking about teaching or their teaching practice and becoming student-focused.

I will first describe my interpretation of the patterns of change or the absence of change across individual teachers' interview transcripts. Following this, I will describe some common themes in the kinds of experiences which relate to teachers becoming aware of student-focused ways of experiencing. From this point, for ease of reading, I will describe my interpretations in terms of the teachers "ways of experiencing teaching" while acknowledging the limitations inherent in the interpretive process. I will also from time to

time refer to teachers “becoming or remaining student-focused”, meaning that they have become or remain aware of student-focused ways of experiencing teaching and acknowledging that a way of experiencing teaching is a relation between the teacher and the teaching situation.

Individual teachers’ ways of experiencing teaching: change and stability over time

Overall, relating individual transcripts to categories of description was often a complex process with interpretations made on balance, as described in chapter 4. The ways of experiencing teaching which seemed to best represent each of the 27 teachers’ most complex ways of experiencing teaching in the situations described in the transcripts are listed in table 6.1. Seven teachers’ ways of experiencing teaching were interpreted as changing from teacher focused to student focused in relation to one or more of their teaching situations. Sam, Tim, Ellen, Neil and Frank all appeared to change their most complex way of experiencing teaching in their class teaching situations from predominantly teacher-focused (categories B or C) to predominantly student-focused (categories D or E). Lissie and Julianne changed from describing a teacher-focused way of experiencing in lectures and a student-focused way in clinics or tutorials to consistently describing student-focused ways of experiencing.

All of the teachers whose ways of experiencing changed, described one or two aspects of a more complex way of experiencing in their first interview, but usually in ways which did not relate to the majority of their descriptions of teaching. Two teachers, Lorraine and Angela, described aspects of more than one way of experiencing in their early interviews and became more coherently student-focused by their later interviews. Angela’s way of experiencing undergraduate teaching had aspects of both teacher and student-focused ways of experiencing in her first interview, but by her second it was consistently student-focused. She maintained a student-focused way of experiencing postgraduate teaching. Lorraine’s way of experiencing teaching in lectures in her first two interviews suggested dissonance

between more teacher-focused acts of teaching and awareness of more student-focused intended learning outcomes. In her first interview, her overall intention related to category F and her awareness of students' misconceptions to category D but her description of the act, direct object and immediate indirect object of her teaching related to categories B and C. She focused on explaining the subject was so that students would acquire an understanding:

We have to explain. In our first three introductory lectures we explain such things as [subject philosophy] and what that really is. Everyone thinks of it as, you know, two extremes, two polarities but of course it's not, it's a continuum ... and we have to explain all those sorts of things to them.

Table 6.1 Ways of experiencing teaching described by individual teachers across their interviews

Teacher and discipline area	Interview 1	Interview 2	Interview 3
Andy, Physics	A	A/B ²	A/C ²
Shane, Finance	B	B, C ³	B
Sam, Engineering	B (C) ¹	B	D
Neil, Biological Science	B (E) ¹	D/E (F) ^{1 2}	
Ramesh, Physics	B, C ³	B, C ³	B, C ³
Tim, Chemistry	B/C (D) ^{1 2}	D	D
Lissie, Health	B/C, D ^{2 3}	E	E
Frank, Engineering	B/C (D) ^{1 2}	D/E ²	
Ellen, Law	B, C (D) ³	D	
Lorraine, Health	C/D (F) ^{1 2}	C/D (F) ^{1 2}	E (F) ^{1 3}
Lee, Applied science	C	C	C
Peter, Law	C	C	C
James, Social science	C (D) ¹	B, C (D) ^{1 3}	C (D) ¹
Paula, Humanities	C (D) ¹	C (D) ¹	C (D) ¹
Kelly, Economics	C/D ²	C/D ²	C/D, D ^{2 3}
Julianne, Media design	C, D ³	D (E) ¹	D (E) ^{2 1}
Eric, Social science	D	D	D
Barbara, Law	D	D	D (E) ¹
Linda, Law	D (F) ¹	D	D, E ³
Chris, Humanities	D	E	
Nick, Engineering	D	E	E
Matthew, Engineering	D (E) ¹	E	E
Angela, Social science	E, B/D ^{2 3}	E, D ³	E, D ³
Kate, Study support	E	E	D, E ³
Ray, Engineering	E	E	E/F ²
Sarah, Management	F	F	F
Sophie, Education	F	F	

¹ Brackets indicate that the teacher described dissonant aspects of the more complex category.

² Two categories separated by a slash indicates that the teacher's description of a single teaching event or something which happens very occasionally relates to the more complex category.

³ Two categories separated by a comma indicate that the teacher described teaching differently in relation to different situations

They have got so many misconceptions when they come in because they've read a book or they think they know something about it ... You've got to counter all their preconceptions. You also have to counter very much a western approach to reality, their world paradigm is basically [x] and the paradigm of [the discipline] is basically [y] ...

I. So how do you counter those preconceptions?

I don't know (laughs). Talk at them I suppose. I don't know how we do it.
(Lorraine1)

By her third interview, rather than telling students, Lorraine's acts of teaching emphasised getting students to construct their own knowledge and engage in independent learning, and she was convinced that their learning was better.

Teachers whose ways of experiencing changed in some way had a diversity of backgrounds and teaching situations. They varied widely in teaching experience. At the time of the first interview, Lorraine had been teaching for more than 20 years and Julianne for almost 10. Angela, Sam and Lissie were in their first few weeks of full-time teaching, although both had some prior tutoring experience. Ellen, Neil, Tim and Frank had between one and four years experience in their current teaching positions. They came from a variety of discipline areas, as indicated in table 6.1. They also described their teaching in a variety of different class sizes and types, from Ellen's workshop classes of 15 to the Angela's undergraduate lectures with 120 students which she described in her third interview. What they most had in common was participation in formal teaching development activities. All but Lissie undertook part or all of a GCHETL or related course, most in the year between their first and second interviews and Sam between his second and third. Lorraine's course focused in part on learning and in part on multimedia. Lissie participated in some teaching development workshops and indicated an interest in enrolling in a more formal program when she had completed her higher degree.

A further three teachers, Matthew, Chris and Nick, appeared to change from describing an already student-focused way of experiencing (category D) to focusing more strongly on facilitating independent, personal and lifelong learning (category E). Of this group, Chris was new to fulltime teaching and had previously been a casual teacher, Nick had been primarily teaching as a casual laboratory demonstrator had recently taken over the co-ordination of a subject and Matthew was in his third year of teaching. Matthew and Nick participated in a GCHETL whereas Chris did not.

One teacher, Kelly, described her teaching in her first two interviews in a way which could not be clearly interpreted as either category C or category D. By the third interview, her description was more clearly differentiated and related to category C in her teaching of large lectures in a subject taught in parallel to a senior colleague and to category D in relation to her intended teaching of the same subject in the following semester when she would be co-ordinating and teaching it on her own. Kelly had five years previous teaching experience at other universities. She had previously participated in a lot of teaching development activities including a TAFE (further education) train-the-trainer workshop but did not undertake a GCHETL.

Of the remaining 14 teachers, seven remained predominantly teacher-focused. Again, this was a diverse group. It included six men and one woman. Andy, Shane and James were in their second year of full-time teaching experience. Peter, Lee and Ramesh each had more than 10 years experience, with Ramesh gaining much of his experience overseas. Paula had been teaching for more than 20 years. Their class sizes and types varied, from Peter's workshops with 15 students to the lectures with more than 250 students that Shane described in his third interview. James, Peter, Lee and Ramesh completed a GCHETL. Paula commenced but did not complete the course before moving universities. Andy and Shane came to an initial teaching development workshop.

Paula and James described some aspects of category D, but in a way which was dissonant with how they described the majority of aspects of their teaching and with the overall

meaning and focus that teaching had in their teaching situations. One example of this dissonance is evident in Paula's third interview, where her description of how students learn and the kind of learning which was desired were consistent with aspects of category D. The students are expected to "question their own taste", synthesise different perspectives and develop as cultural critics. However, Paula does not appear to relate her teaching to her students' understandings or take them into account in her teaching. The act and direct object of teaching that she describes throughout the transcript is more consistent with category C. She does not share or understand students' interests, seeing her role primarily in terms of providing theoretical knowledge and frameworks for them to use:

With a subject like that usually people will only choose to do it if they're consumers of popular culture themselves, alright, so part of what they have to do is question their own taste and their own, the pleasures that they get from watching these things on television, or listening to music or whatever. ... So it is a tricky combination of being able to articulate your own responses using you know whatever conceptual tools the course would help you with and using whatever examples, you know course readings might show you, but also understanding the phenomenon in a wider framework. ... So they have to be very alert to the sort of everyday life world or whatever but they also have to be aware of what is now is a fair tradition of academic analysis of these things, these certain theorists that are de rigueur in the field. So they have to be aware of the traditions of analysing popular culture but they also have to be aware of popular culture in their own lives and in their own world.

- I. So what do you see as being your role as the teacher/lecturer whatever and their role as students in them coming to learn that?

Yeah, well that is hard because I don't have the same enthusiasms that they do, like that is why I haven't taught anything like this for a long time. But they are very enthusiastic about a lot of things that I don't understand or they leave me cold. So given that, I guess it is a matter of presenting the theoretical material, presenting the examples, suggesting appropriate questions to ask, things to analyse, frameworks to use and then encouraging them to develop as cultural critics I guess. (Paula3)

In this and in other sections of this Paula's interviews, her focus appeared to be on her own theoretical engagement with her academic discipline with little or no engagement with her students' perspectives. Her transcripts were interpreted as predominantly relating to category C, with an indication of some awareness of category D. Neither Paula nor James appeared to relate what they taught to students' understandings or experiences, or to focus on students comparing qualitatively different understandings.

A further seven teachers described primarily student-focused ways of experiencing across their two or three interviews. This group included five women and two men. In this group, Kate had less than one year of university teaching experience but had previously taught in further education. Sarah, Eric, Barbara, Linda and Sophie had between three and six years teaching experience, although Sophie also had experience in contexts other than universities. Ray had been teaching for more than 20 years. Most were teaching smaller mixed-mode or workshop classes with between 15 and 35 students although Eric had lecture classes with more than 100 and both Kate and Linda had begun to teach lecture classes with more than 60 students by their third interview. Sophie had educational qualifications prior to the first interview. Kate, Sarah, Barbara, Linda and Ray completed a GCHETL between the first and second interview.

Looking at the background characteristics of the teachers and their teaching situations, there were some differences between those who became or remained student-focused and those who remained teacher focused. Fifteen of the nineteen teachers who became or remained consistently student-focused, including eight of the nine who became student-focused, participated in some or all of a formal qualification in university teaching, as did five of the seven teachers who remained teacher focused. Those who participated in the qualification were significantly more likely to be or become student-focused, although the small numbers suggest that this claim needs to be made with caution.

Relations with perceptions of the teaching situation

Some teachers' ways of experiencing teaching differed according to their teaching situations, as shown by the multiple codings in table 6.1. Most often the difference was within the set of three teacher-focused or three student-focused ways of experiencing. No teacher consistently described teaching in a teacher-focused way in one situation and a student-focused way in another across different interviews. Differences within the teachers' descriptions tended to relate to the level and type of class, teachers' perceptions of their class size, the level of the subject and students and the teacher's perceptions of workload or pressure in the teaching situation.

In Ramesh's transcripts, Lissie's first transcript and Kate's and Linda's third transcripts, less complex ways of experiencing teaching were described in lectures than in clinics, tutorials, workshops, seminars or labs. In Kate's first and second interviews all of her teaching had been in small to medium-sized workshops or tutorials, whereas by her third interview she had begun lecturing. Her workshop teaching continued to be described in a way which most related to category E, but her lecturing most related to category D. Ramesh's overall description of teaching in lectures most clearly related to category B, whereas his description of tutorial teaching related to category C, where students did tutorial problems and the solutions were discussed in ways which focused on whether students had the right answers. He explained the difference himself as follows:

Lecturing is mainly, for the first year students' point of view, trying to transfer the information you know. Most of the time, and occasionally you are giving the relationship between the concepts and all the theories to the application of it. But the tutorials and other things is probably will do much more than the lecture. But at the same time lecture is also giving something important for the first year students. They get some knowledge of some kind of, basic knowledge. Teaching in the lecture different really from teaching in the tutorial and the lab you know.

- I. In what way?

As I said, at the present time in the lecture, 60% of the time, first 20 minutes are spending discussing the quiz, so that's kind of the tutorial kind of thing so 60%, 50 to 60% just spending on transferring the information to them. And the other 25% only I'm just trying to explain a bit more the relation to the real life situation. If it's a tutorial then it's going to be 100% kind of interaction, and the problem solving skills and methodology and things like that. Encourage them to think and get the understanding. (Ramesh1)

For some teachers, smaller, later stage-classes afforded more complex ways of experiencing. In Angela's transcripts and Shane's second transcript, a more complex way of experiencing related to teaching smaller classes in postgraduate subjects, and a less complex to teaching in larger undergraduate classes. In James' second transcript the more complex way of experiencing related to a third year elective subject with 17 students compared with a first year compulsory subject with around 30-40 students.

For teachers who described their teaching in teacher-focused ways, large classes were perceived to be a barrier to the use of interactive or participative teaching strategies. For example, in Sam's first interview, he described how he had heard about ways of promoting deep approaches but did not see it as possible to use these in his class with 90 students. His descriptions of his teaching in this interview related to category B:

There may be teaching methods that promote learning, deep learning, all of these terms that I've heard, but when you have 90 people in a lecture hall and you know, there's only one tutor to actually support them, you can't break it up. ... So there's only a limited number of things I can do, you know. I went through this book describing, you know, 101 things you can do, and I can't do them. If there was a smaller class, possibly I could. But I can't. (Sam1)

Teachers who described their teaching in student-focused ways seemed to still see large classes as limiting, but not as preventing student-focused acts of teaching. For example, Angela has a similar size class to Sam's and also perceives it to be a large class, but still sees it as affording the use of some sub-group strategies:

For the undergraduate subject ... there is no tutorial. It is purely two hours face to face and with a class of, well I suppose 80, can vary up about 100, 120. You are limited, notwithstanding ... the good work which has been done and which I've drawn on about managing to do more things other than just chalk and talk in large groups ...

I broke them up into sort of the Habeshaw and Habeshaw type small groups with, you know, pyramids and stuff like that ... to try and vary it and to give them a chance to sort of work through some of, some ideas and key issues rather than just simply having sort of input all the time (Angela3)

Workload and time pressure were other aspects which some teachers perceived to limit the ways that they were able to teach in their teaching situations. Again, the kinds of limitations that teachers perceived related to their ways of experiencing teaching. For example, in Julianne's first interview the way she described the effect of time constraints suggests that they limited what she could do within teacher-focused ways of experiencing teaching in lectures. With more time, she could move beyond teaching fragments (category A) to pulling them together into a cohesive whole (category B) to having students do activities (category C).

I mean ideally one would relate a whole lot of ideas and principles and see the prominent connections but sometimes I've not been able to move past the sort of fragments and I haven't had the time to pull it together into a cohesive whole. But that's what I'd like. ... And some activity in the lecture is ideal, I think so that they can actually go through the exercise and look at something that exemplifies what I'm talking about. But these aren't always possible.

I. Why are they not always possible?

Timing. [family pressures] Life stresses. Whole lot of major things - how many units you've been dumped with when you're not ready and all that. Time makes a lot of things possible. (Julianne 1)

In the same interview, Julianne described a student-focused way of experiencing teaching in tutorials. By Julianne's second interview, she was using a problem-based learning

approach in her subjects and her way of experiencing teaching in both lectures and tutorials was student-focused (category D). She still perceived time as a factor which limited her ability to prepare, but what she sought to prepare was different. Rather than focusing only on organised content and activities for her teaching, what she wanted to prepare was a better way of structuring problem-based learning and creating resources for students to use in designing and problem solving for themselves. Time constraints did not prevent her from engaging students in problem-based learning activities in her lectures.

I would certainly like more time to do it better ... I'd actually do a fair bit of trying to get small groups to discuss a problem in the lecture theatre. I didn't actually want to do much standing up and tell them all about it. I was hoping that they would have been able to read something, be able to discuss it, be able to draw on that for a problem-solving exercise in the class but I don't feel very happy with the results. ... I think I'll have to put more effort into structuring that and giving them, I don't know, more ready-made handouts I think for them to come back to.

I. Why did you want to do it that way?

I wanted them to go through the process of working out what they needed to know in order to solve this problem. Not necessarily to find the answers but trying to stimulate the design process. Planning, working out what kind of questions they need to ask of the target group, working out what kind of things they'd have to locate, what kind of skills they'd have to acquire, in order to solve the problem. (Julianne2)

Teachers who were aware of student-focused ways of experiencing did sometimes describe themselves as teaching in less complex ways in teaching situations where there was considerable external pressure to cover content, particularly in subjects designed and coordinated by others:

What do I think about teaching? Well there are times when I suppose, I am not alone in this, when you feel so pressured by the amount of work the students have to get through, you do think of yourself as being some fount of information and wisdom that the students have to absorb. But when I am more able to be relaxed about it I always think back to my early Latin classes when we learned, the verb I think from which

education is derived which I think is “educare” or something like “I lead out” and I can remember my Latin teacher telling me that that was of course, a description, a neat description of what that teacher thought was the idea of the kind of teacher and I think that is probably how I try to be. (Barbara1)

Changes in teachers’ ways of experiencing teaching from teacher focused to student focused were inter-related with changes in perceptions of aspects of their teaching situations. There were several ways in which these relations were described, and these will be discussed in the next sections which focus on change in ways of experiencing teaching and how it comes about.

What change is like and how it comes about: individual teachers’ experiences

Before describing themes which appear to relate to change, I would like to put these into the context of individual teachers’ experiences in their contexts by using two vignettes. Each vignette contains excerpts from the teacher’s descriptions of their teaching from two interviews, towards the beginning of the change process and afterwards. Each vignette also focuses on experiences which the teacher perceives to have influenced their teaching, along with my interpretation of how these relate to becoming aware of critical aspects and dimensions of variation. I will then draw out from these and other interviews some overall themes which relate to how change happens.

Vignette 6.1: Neil

I have chosen Neil for a vignette because the change in his way of experiencing teaching was the most dramatic of any of the interviewed teachers but his descriptions also illustrated some common themes. Neil was teaching in Biological Sciences where he had recently

gained a lecturing position after being a tutor and laboratory demonstrator for more than 15 years.

Interview 1

At the time of his first interview, Neil had recently commenced a GCHETL. In the interview, he focused on a subject which he co-ordinated and in which he did most of the lecturing. His way of experiencing teaching in lectures was most related to category B. When asked how he had learned to teach in the way he did, his response focused on having always explained things to people:

It just happened ... happened naturally because I was doing that to my fellow students anyway. I was automatically explaining things to them when they didn't understand. ... I was always explaining things to people.

He felt very anxious about lecturing and had dealt with this up till now by focusing strongly on the structure and organisation of his lecture material and on formal, scripted presentation.

I couldn't just get up with a few sort of notes and talk. It just didn't happen. ... so much did I get anxious about this that I've eventually gone to having what amounts to a full script with side notes in the margin which would be like the sort of little notes people have that they talk from. But if I get stumped, I then read the text.

At the time of his interview, three weeks into the semester, he was already beginning to question his way of lecturing and his conception of lectures as formal situations:

I run very formal sessions, lectures. I always found it very difficult with such a large group anyway to do it, although I'm starting to think about some of the other possibilities. ... I had a number of guest lecturers ... and I was watching and looking at some of the interaction that he has with the students which I hadn't paid attention to before and I thought that was interesting. I tend not to do that. I don't feel comfortable doing that. I'm comfortable interacting with people in practical classes, in small groups and so forth. In a lecture situation, I don't like, I have this conception of it just being more formal, you know, and structured in the sense that the material's

structured and they ought to know what you're saying ... So the whole thing to me is like a performance. I've always thought of it more as a kind of stage presence than an interaction with humans and I don't know which direction I'm going to go. I'm going to try some different things. I'm still not sure with the large group how it's going to go.

Neil was already expressing an intention to try some different things in lectures, despite some uncertainty. He had begun to focus on his colleague's interactive approach which he "hadn't paid attention to before" and had become aware of variation between lecturing as a taken-for-granted performance and as an interaction with people. A traumatic student complaint had brought about the realisation that students perceived the meaning, organisation and interest of his lectures very differently from the way that he did:

I've got every i dotted and every t crossed ... and it's all in chronological order that I'm trying to expound and I'm happy with all connections. What I've come to realise is that the people sitting there hearing me, don't necessarily see any of that and it doesn't necessarily mean anything to them. And I have this horrible feeling that all of this is maybe why it doesn't actually work.

...

It looks like it ought to work but doesn't.

I. What makes you think it doesn't?

The response from the students is they're not good ... they wrote an official letter of complaint about the course and (pause) I was devastated. They said ... that they thought that I was incompetent and that my lectures were boring and disorganised. I was shattered by the whole experience ... But it means they didn't like it. ... They found it boring, which I thought was extraordinary. And they found it disorganised and it's the most organised and structured thing you could possibly imagine.

In his first interview, Neil seemed uncertain about many aspects of his teaching. When asked how he would personally define teaching, he seemed to have a growing awareness of dissonance between how he imagined he thought about teaching and what he actually did. There was also uncertainty about what teaching was meant to be:

I don't know how I'd define it because as I say I didn't think that's what I was doing. ... There's odd bits about information but it's more I've always thought, more about a framework and trying to get people to get on and find out things for themselves, providing parameters for that. ... I have a suspicion I don't do that. I do something else and not that. Because to try and do that and know that you've done it is difficult. ... You actually do something else instead. I mean I didn't ever think of myself as teaching. I always thought of myself as helping someone else to do what they needed to do.

Interview 2

By Neil's second interview, his way of experiencing teaching in lectures had become more student-focused and his description showed critical aspects of category D. The act of teaching focused on two-way student student and student teacher interaction and involved him in finding out about and responding to the students' ideas. What he was teaching wasn't simply his structured script but was a relation between students' ideas and his overall aim for the session, with the intention that students would construct their own knowledge of the subject.

Instead of giving these sort of set piece lectures which I'd been fond of doing and sort of trying to do it as a stage act, I didn't. I got them to talk about it and collected their ideas. ... I got them to think about three areas because I wanted to relate structure and function so I got them to start thinking about it by saying that I wanted them to talk to their neighbours so I decided to do one of these pyramid things ... I then did a round where I said "okay, give me your best ideas." So we started writing these up. ... I think I started with function, "you've got this function and what aspect of the structure supports that? If it's got to do this how does it happen?" Not saying "okay, well there's this system that's got this, this and this", saying "well, if you want to perform this function, what would you do?" ... In the end I didn't refer to the textbook at all. I said, you know, you can read about all that what it says. And I was trying to do something entirely different.

...

- I. So just stepping back a bit, you were describing that way of conducting that class with the pyramiding and so forth, why are you wanting to do it that way in [the subject]?

... It seemed to me that I wanted to try and get people to construct their own knowledge. I came with this idea that you've got to do that and to try and assist them with that ... if I can try and help them construct it then that should be better and it might help them when they are trying to read some of the things.

His personal definition of teaching was still rather ambivalent but was now consistent with his description of teaching as helping students to construct their own knowledge:

I had never thought of myself as being a teacher ... and having decided that I might have to be one, then I might as well try and do something that's satisfying to both students and myself. And this idea of somehow trying to get them to create their own knowledge and link through. ... So I think it's, it has to be helping people to construct this stuff and helping them to construct, oh okay, the possible links if there are any between these things.

Reading about alternatives to lecturing and participation in GCHETL sessions influenced Neil's changing understanding.

My experiences with the graduate certificate and thinking about all that have altered enormously how I've thought about stuff

...

The bits and pieces of reading that say there're all these other things you do instead of sprouting out about stuff. That doing things the way that I was thinking people did them and I tried to do them, probably wasn't going to work anyway... in spite of as much effort as I might put into it to be cleverer and have clever diagrams ... and emphasise pictures and get people to take their own notes, all that sort of stuff is never going to work.

I. In what sense?

In the sense that it's not what's needed. ... A lecture is not a presentation. ... and there was something else that struck me. I'd always thought that what you did was have material and use it. It hadn't occurred to me that it might be possible to have a

lot of stuff and only use part of it depending on how the session went. That had never occurred to me. I think that's a very powerful idea...

I. So where did that idea come from?

Oh, in graduate certificate sessions ... you have what amounts to ... boundaries and you're sort of happy to wander through that and take whatever path that came up. Yeah, that struck me as an entirely different way of thinking about things than I had done. I'd always thought that people had a set program and of course all the lecture notes from people that I've seen are like that. ... They don't have any appearance of having possible alternatives.

Neil had become aware of variation in dimensions related to critical aspects of the act and direct object of category D. The act of teaching was now interactive rather than one way, and he now saw it as possible to use prepared lecture material in different ways depending on students' responses. Neil also described how he was influenced by talking more to students and listening to their ideas, something he would try to do more of in the future:

Talking more to the students, I've found influenced me. ... You find students have some very interesting ideas about what they think's important and what they don't think's important and so forth. ... I've got to start listening a lot more to what they say.

Neil's descriptions of how his teaching had changed had commonalities with other teachers who became more student-focused. By his first interview, he had become aware of variation between his perception and his students' perceptions of aspects of his teaching and subject. He focused his attention on an aspect of the act of teaching, interaction in lectures, that he had not previously focused on and became explicitly aware of variation in ways of conceiving of lectures. His espoused intention of helping students to do what they wanted to do was dissonant with his acts of teaching and his conception of a lecture as a presentation, and he was beginning to be aware of this. His student complaint and his very high level of anxiety about lecturing appeared to have assisted in focusing his awareness on alternative ways of experiencing lecturing.

By his second interview, the act, direct object and indirect object of Neil's teaching in lectures were more congruent and consistent with a student-focused way of experiencing teaching (category D). He had become aware of critical aspects through reading, participating in the GCHETL and observing the teaching of the course leaders, observing his colleague's teaching and listening to students. The importance of literature on teaching and learning, taking what could be described as a student/observer perspective in formal teaching development activities and listening to students were also common to others whose ways of experiencing teaching became more student focused.

Neil participated in all of the classes for the GCHETL but did not do the negotiated assessment for the course. In the year following his second interview, he was given a much larger enrolment subject to co-ordinate. He declined to be interviewed for a third time, commenting that he had said everything he had to say in the second interview.

Vignette 6.2: Ellen

I have chosen Ellen for a vignette to illustrate a less dramatic process of change than Neil's in a different teaching context. Ellen was teaching in the same course as Linda and Barbara, who both described student-focused ways of experiencing, and Peter who was consistently more teacher-focused. The course was a postgraduate professional preparation course in Law. Most of the teaching was in workshops with 15 students, in which all teachers were required to use core subject materials and student tasks which had been created by senior course designers. The course materials were designed according to behaviourist instructional design principles with a large amount of detailed content, student performance of step-by-step practice tasks and frequent feedback on performance.

Interview 1

At the time of her first interview, Ellen was in the middle of her second year of teaching, having previously worked as a lawyer. She had commenced the GCHETL five weeks prior to the interview and appeared to be at the beginning of a transition in her way of experiencing teaching. Like Neil to some extent, she felt that she had just fallen into a pattern with teaching, but she had participated in a short teacher-training course:

I think it was, I just sort of fell into a pattern. I did take a training course, Basic methods of instruction with TAFE. ... Some of the things that I learnt from that I brought with me and started from day one. Which was the overhead transparencies, and then preparing some handout notes to give them and using the whiteboard and splashing out into colour ... But really I think I fell into a pattern pretty quickly in terms of keeping up with the timetable and a difficult load.

She commented that she had just begun to have time to think about what she was doing and why:

I haven't had a lot of time to reflect on what I'm doing and why. And I'm only starting to sort of think about that this year because I've got the content very much under control now. Now's the time that you can enjoy by sitting back and actually planning.

Her way of experiencing teaching was predominantly related to categories B in lectures, which she gave occasionally, and C in her workshops. In her descriptions of preparation and teaching she focused on the need for her to know the material, serve the students well and keep them motivated and interested:

When I first started the preparation was horrendous. ... I needed to get the real technical detail which you don't have ... when you start to teach. And the students are so capable. They always ask fantastic questions. I feel that it's very important to serve them and to be well prepared. ... We have a timetable which is like a very fast moving train and you have to keep up with it. ... I try to think "okay, they've got to understand, no, learn and understand this today". How, the biggest thing I suppose I

try to say is how can I make this interesting because this area of the law is fairly dry and technical, fairly uninteresting and there's not a lot of scope to really try to make it interesting apart from really trying to look motivating in class and keep the momentum going which I very much, I try to do. ... The other thing I like do is to get them into small groups of four or five and also have a bit of discussion.

...

- I. You mentioned that you split them up into small groups. What were you trying to do when you did that?

Well, for me I think it's much, I know with fifteen you can lose part of your audience. ... just as a round table forum, five of us maximum, I honestly think that I can deliver to them in a better way, and I can take their individual questions and deal with them and it's good.

Ellen's aim in teaching was to have students go away with good knowledge which they would apply in practice. She indicated that she hadn't previously thought about or focused on what learning meant, but described it, rather uncertainly, as understanding and applying knowledge:

(pause) well to me, learning is, is understanding and applying, and understanding knowledge and applying knowledge. What else can I say about learning? (pause) It's very hard because, I suppose something that I should have thought about and haven't focused on the last couple of years.

She knew whether students had learned when they asked questions, or when she assessed their work. She seemed to find it difficult to give a personal definition of teaching and described her definition as relating to positive experiences of having been taught. From my perspective, it appeared to relate to an ideal that she was aiming to achieve, and suggested that she was aware of aspects of more complex ways of experiencing teaching than those that she currently enacted in her teaching situation:

I think it means (pause) being a bit of a role model, being dedicated. You're a facilitator of a voyage, or to facilitate learning and growth in the students. It's a

rather difficult role ... It's hard to put this into words ... I suppose my definition relates to my experiences that have been positive where I've been taught.

Her awareness of teaching was beginning to change from telling students what they needed to know to facilitating their learning. She describes herself as "starting to realise", "starting to be able to focus" and making a transition in her teaching.

I take and have taken a lot of responsibility for their learning, which I'm starting to realise is not right. ... I'm now starting to be able to focus more on things and look critically at all sorts of things in the teaching and the learning. ... Up till now I've taken the brunt of the burden. ... Grinding it into them, checking and re-checking all the time. But I've just started with this new group ... and I've told them I want them to do some reading and for them to prepare. They grumbled but some are doing it. But it's going to be a hard transition for me to make but it's one I must make because they are responsible. (Ellen1)

Unlike Neil, Ellen did not describe any traumatic experiences, but did comment on the burden of taking all the responsibility for students' learning. Her desire to make a transition in her teaching seems to have occurred through a series of realisations over time. She had become aware that she was learning all the time, but that her students may not really be learning. Her early experiences in the GCHETL may have related to her use of the term "surface learning" and her comment that this is "retained briefly".

I've found in the last year that I'm learning more and more all the time. I felt "well hang on, I'm learning things better and I'm sure that they're not really learning because I've just spoilt them rotten". ... And I hate spoon-feeding and I've hated it from the beginning. ... Now, with hindsight, I don't see that as good learning because it's only going to encourage surface learning. Retained briefly. ... And it's much more interesting when there's critical discussion and analysis

Ellen had also recently experienced a different group of students that she perceived to be bright, highly motivated and into critical discussion. This related to her experiencing variation in her own acts of teaching. Rather than having to spoon feed, she experienced

herself as answering questions, steering students in the right direction, motivating and getting them thinking.

... and earlier this year I had a group that were very, very fantastic group, very much into critical discussion and analysis and they must have done their preparation at a very high level. It just seemed like super brain group. I'm not so sure whether that's the right way to describe it, but highly motivated and they did the work themselves. I didn't have to spoon feed. They asked me lots of questions and certainly my role is to answer, to steer them in the right direction. But I didn't have to do their work for them. And I'm really, yeah, I just don't want to perpetuate spoon-feeding, ... that's a pact with myself, is not to do it. ... I mean my role is to motivate them, to get them thinking. Certainly to deal with problems, to clarify, but I think surely that good teaching is (pause) getting their brains stimulated and interested in the topic enough to go away to do their reading and their work. ... I've got to protect myself and my own integrity now.

Ellen's first interview suggested that her way of experiencing teaching was changing. She had become aware of variation between spoon feeding and facilitating and between telling students what they need to know and having critical discussion, but was not yet consistently acting in ways which were congruent with her changing awareness.

Interview 2

By Ellen's second interview, the course had changed and she was teaching the new course for the first time. She still felt pressured by the amount of material and the timetable. However, despite this, her descriptions were becoming more consistent with a student-focused way of experiencing teaching, trying to relate her teaching to students' learning (category D). She was still concerned with making the course material interesting for students, but now saw interest being created through drawing students into discussion. She now planned to create discussion, whereas in her previous interview she described it almost as happening serendipitously when she had a good group of students. It is now important for her to find out what students know, which may differ from what they should know. Although her description doesn't explicitly refer to qualitative differences in students'

understandings, she is becoming more aware of differences in their backgrounds and experiences:

...

I was thinking about how can I, well how can I make this interesting ... how I can draw people into discussion to make it interesting. I also try to think, which is partly the new philosophy which I do think is good, that a lot of the learning, the responsibility of the learning is now just to be student-centred rather than teacher imposed. ... But it's making that transition and I'm finding it hard ... Working out what I need to direct them to read ... And then what I need to find out what they know. ... One thing that I have done ... is to print on overheads some more complex questions ... And I'll say to them, ok ... in your groups, let's see the first people to answer these questions. ... It just got them thinking. I think they quite enjoyed it. I felt the questions were really of sufficient difficulty to really kind of stimulate their minds but on hindsight I think that the few times I've done this the questions haven't been as difficult as I've wanted, so I've got to work on that. ...

I. What makes a question that's the appropriate level of difficulty?

That's very, very hard. Because you have to have an understanding of what they do know. And often you're aware of what they should know, but not what they actually do know. But I guess the questions can demonstrate to me where they don't know things and where they do. ... It's hard to find a balance because we do have such a variety of backgrounds in the group.

While Ellen described a range of influences on her teaching, the most powerful was a GCHETL assignment in which she interviewed three of her students and interpreted the findings using literature relating approaches to learning, conceptions of learning and students' perceptions of the learning environment:

I think one of the enormous influences on me was ... one of the first assignments regarding the way in which students learned, and I had no idea about how students went about learning. And I had some fascinating interviews with some students and I transcribed the lot and the material that came out of that just blew my mind. And it really did

I. What was it about it?

Well, that the approach one takes, well there was this linking up between, that's right, the whether you were a surface or a deep learner, and there's often mixtures of both, or people take different approaches in response to different things. I mean I found all that out as well because I didn't realise. So it was fascinating learning what would promote surface approach to 99% of people and what wouldn't. But it was actually linking in the surface and the deep approach with ... conceptions of learning and the earlier stages of Säljö or the first two to three stages were very much what I would call almost sort of the just, almost childlike learning that's not terribly interesting or exciting or stimulating and the stages I think, four and five were getting towards the highest, if you could call it that, stages of learning which, and when I analysed the results of my survey and my interviews it fitted together and that's when for me it was like the alarm bells were ringing. I thought "oh my god, now I understand what all this is getting to". ... And I once that happened I got terribly excited. ... I could see the limitations with the surface approach and that was really, really very interesting to me because I thought a lot then about the course ... and I started to see in everything that we were doing, "oh that's going to promote this approach or that", and it was just so empowering to have the knowledge. ... It has helped me enormously in knowing about those approaches. ... I can at least try to do things that might foster a deep approach to learning now that I'm aware of it.

Ellen described her new awareness of the relation between teaching and approaches to learning as "empowering" as it enabled her to see how her teaching could influence students' approaches. It was also frustrating because she felt unable to influence the overall course design, but despite this she was trying to introduce small manageable changes that she saw as encouraging deep approaches.

Well, somehow I need to in build some time into the program where we can, myself and the students in a group, reflect on steps that have been taken and why. ... I'm hampered somewhat by the assessment, which unfortunately I believe encourages a surface approach. ... But I'm thinking of somehow another way I can maybe get students to read and explore topics ... Because I feel it's when they discover the answers themselves and they then make the connection that there's been some deep

learning. ... That's something that I've tried to a shorter extent ... I really need to work on it more and integrate it properly into the program.

Ellen's description suggests that the student interview experience was one which enabled her to become simultaneously and focally aware of variation in students' approaches to learning, desired intentions for student learning and related acts of teaching. She had also discerned and focused on learning as discovering and making connections and was trying to see learning from the students' perspectives. She had a more complex definition of what teaching meant to her, which included her ideal description from her previous interview but was now more consistent with how she described her own teaching:

It's a very much a two sided thing. It's not a one-way process. It's where you're getting this, almost this kind of dialogue, is the word I'm looking for, between the teacher and the student and, (pause) it's a continual dialogue. I think it is marvellous for teaching where you're in it, a discussion, guidance context, rather than the lecture mode.

...

I think there's also, perhaps I'm coming to realise, a sort of a mentoring, role model, for want of a better word, responsibility of teachers. That students might look for teachers for guidance even on matters beyond the actual teaching course.

...

Hopefully good teaching practices promote learning.

Ellen still described herself as an inexperienced teacher. She felt that she had made some progress towards turning her experience around but still had some way to go. Her descriptions suggested a process of transition in her way of experiencing teaching which had begun before the first interview and was becoming more consolidated by the second. By her first interview she was trying to move away from spoon-feeding towards a more facilitative approach. Several aspects of her experiences were common to other teachers who became more student-focused: becoming aware of dissonance between her own learning and the learning her teaching encouraged in students, experiencing a different group of students which related to her becoming aware of variation in some dimensions of teaching and becoming aware of variation between "spoon feeding" and facilitating learning.

By her second interview, Ellen was explicitly aware of acts of teaching as engaging in two-way dialogue and encouraging students to discover for themselves, and she saw this as encouraging deep approaches to learning. She had become simultaneously and focally aware of critical aspects of student-focused ways of experiencing teaching through interviewing her students and relating the interviews to student learning literature. She felt empowered to evaluate the effects of the learning environment on students' approaches to learning, and do what she saw as possible to encourage deep approaches within what she still perceived to be a very difficult course environment.

By the time of the third interview, Ellen had left teaching. She declined to seek renewal of her contract when it expired, choosing instead to return to practice. She cited both personal reasons and a major structural change in her department which she saw as making the environment worse for learning and teaching.

Aspects of how change comes about: patterns of critical teacher experiences and orientations

Neil and Ellen's descriptions shared a number of themes in common with other teachers. They had encountered a series of situations which afforded the experience of critical aspects of student-focused ways of experiencing teaching. They were oriented towards these situations in ways such that they experienced relevance structures which brought the critical aspects to the foreground of their awareness. In this section, I explore themes in the critical experiences and orientations described by teachers who became aware of or were already aware of student-focused ways of experiencing teaching. I will use the term "critical experiences" to describe experiences which these teachers described as influencing aspects of their ways of experiencing teaching, and "critical situations" to describe the situations which afforded these experiences. I will use the term "orientation" to describe affective and other aspects which relate to *how* the teachers experienced these critical

situations, in particular the focuses they experienced. Orientation is used in preference to approach because most teachers described these in terms of general or diffuse dispositions towards their recent experiences of learning about teaching. However it should be emphasised that these orientations are still relations between the teachers and their situations.

While each teacher who became or remained student-focused described a unique pattern of experiences, there were four common themes in the critical experiences described by teachers and the situations in which they occurred. Three of these themes related to experiences which occurred in teachers' everyday teaching situations and one to experiences which most often occurred in formal learning situations. These themes relate to the patterns of variation which the teachers experienced in these situations.

A further three themes related to ways in which teachers were oriented towards their teaching and other situations in ways which made it more likely that they would discern the critical aspects of student-focused ways of experiencing teaching and see these as relevant for their own teaching. These orientations related to the relevance structures that the teachers experienced in the critical situations. Each of these themes is described in the sections below.

Critical experiences and situations which afford them

Experiencing teaching from the students' perspectives

Teachers commonly reported experiences in which they became aware of their students' perspectives, or of variation between their students' perspectives and their own. Ellen's student interviews and Neil's student complaint relate to this theme. Experiences of this kind came about through listening to students or reflecting on sources of student feedback. For example Barbara described how a student feedback comment early in her teaching

career had made her aware that her students did not experience her teaching in the way that she did:

I do think that initially I had an over-protective view of the students and I was interested and in fact somewhat astonished to read in some of the [student feedback] surveys that some students actually objected. One in particular commented that I wanted to be everybody's mother (laughs) which I found a bit off putting but it did cause me to step back and look at how I regarded them. ... There were other criticisms of ... not allowing the students to read the materials for themselves but feeling that I had to reinterpret them. ...

- I. So reflecting back on those things now, what do you think you've most got out of incidents like that?

...

(pause) Well, I suppose I have learned that firstly (pause) the way you present yourself or the way you think you present yourself doesn't always translate in the way you mean it to, to the students. Secondly, I think that you have to stand back from them a bit and show more respect for their ability to do things for themselves and not to be, a mother hen and overly anxious (pause) but by the same token of course you must always have them feel comfortable about coming to you for help ... to get assistance if they need it, but not to thrust upon them. (Barbara1)

Ray described a similar experience as sensitising him to the need to be aware of where the students are at:

The experience with [a particular subject] has sensitised, made me aware I think, I need to be a little bit more sensitive of where the students are at rather than where I think they're at (laughs) They're miles apart (laughs). (Ray2)

Kelly became aware of different perspectives through assessing her students' work and listening to her students when they came for individual consultations. In particular, she became aware that her students, both Asian and Australian, did not necessarily interpret assessment questions in the way that she took for granted:

Teaching at [] has influenced me because I can really understand how a lot of Asian students have problems reading, actually understanding. ... If I read a question you tend to think “okay, this is how I answer it”, but a lot of the students now just seem to have problems with reading the question. Don’t know what the question’s asking. ... I mean I like for example, the girl from Cambodia, she did not know what it meant when someone said “compare and contrast”. ... And then I was talking to some other students and they were, you know, Australians. They had no idea what it meant either. ... just with these, this girl from Cambodia and the girl from Vietnam, a lot of things that they’ve said I think “oh, well”. I sort of take a step back. ... think about another approach and the way you go about it. (Kelly3)

Experiences of this kind involved awareness of variation in the dimension of student and teacher perspectives. Teachers realised that students had different ways of seeing something which had previously been taken for granted. Awareness of students’ perspectives is a critical aspect of student-focused ways of experiencing. While most of the experiences described in this study related to students’ perspectives on teaching or the learning environment rather than the subject matter per se, the awareness that there can be qualitative differences in perspectives may be necessary for teachers to experience qualitative differences in perspectives on particular things.

These experiences involved strong affective responses. Ellen described her interview experience as exciting, fascinating, empowering and as blowing her mind. Neil’s student complaints were devastating. Barbara was astonished, Ray was made aware and Kelly commented on taking a step back. This affective response suggests that the realisations not only surprised teachers but also had high personal relevance. It seems related to a desire to enact a critical aspect of the act of teaching – responding in order to bring about a closer relation between teacher and student perspectives.

Experiencing different perspectives from different students

Experiencing different students affords, but does not guarantee, the experience of variation in students’ perspectives. It is not whether the students are different that matters, but

whether the teacher discerns differences which are related to critical aspects of new ways of experiencing teaching and separates these from other features of the students. As described previously, Ellen experienced a different group of students, discerned that they took more critical perspectives than previous students, separated the critical perspectives from the students per se and responded with different acts of teaching.

Matthew, whose way of experiencing teaching expanded within an already student-focused way of experiencing (category D to E) expanded on this theme. His description indicates that his acceptance of variation in students' perspectives was brought about by experiencing a wider range of variation than he had experienced previously:

For the first time this semester I started running some industry courses ... I was amazed at the difference in the students and the difference in the outlook, their conception of learning, their approach, their motivation, their enthusiasm, yeah. ... I think there's a horrendous tendency to ... say here is this mass of students, treat them all the same and I don't think it's like that but nevertheless the median point is still there ... Teaching an industry course where all the people on the course were a lot older and had a lot more experience ... I think the median point was suddenly a long way away ... You've suddenly got this reference point, a contrast there that makes the difference stand out a lot more starkly. I guess that had the effect of making me much more aware of just how much the students do vary ... I found [myself] teaching very differently to that group, to the industry classes.

...

I think I always had an intellectual acceptance of "OK the students are different" but not necessarily an emotional one. I think that's probably changed a bit.

- I. What do you think, what's the difference between an intellectual and an emotional acceptance?

Intellectually you can say "Yes I can look at these two students and one is like this and one is like that and yes I need to teach them differently" and make all the right noises and but ... I guess it's an understanding about the implications of that. ... I think once you start to understand what it means and why that's the case then you become much more willing or much more able to sort of take that into account in the way you teach. (Matthew2)

Noticing the differences in students' experiences and perspectives enhanced Matthew's understanding and his willingness and ability to take these differences into account. Like Ellen, he "found" himself teaching differently with the different students, suggesting that his acts of teaching changed in response to his changed understanding of the students.

Bringing about change in one aspect of teaching and discerning variation in other aspects

In the previous two themes, teachers became aware of variation related to students' perspectives, an aspect of the indirect object of teaching, and consciously responded or found themselves responding with different acts of teaching. Critical experiences also happened when a teacher tried out student-focused acts of teaching, then became aware of variation related to other aspects of teaching. Some teachers, like Neil, tried out something new when they saw their teaching situations as no longer affording previous ways of teaching. For example, in Lorraine's third interview she described how a lack of tutorial timeslots for a much larger class had led to her introducing tutorless tutorials. In her earlier interviews she commented that students had difficulty understanding some concepts, but her typical response was to re-explain:

... I tell students right at the beginning if they don't understand anything then they must make me explain it again and again and again until they are happy. I will try not to get irritable or look cross about it even if it is the tenth time I have explained the same thing because the fault is mine. Somewhere I am not explaining it properly. It is not getting across. ... (Lorraine1)

The tutorless tutorials related to Lorraine perceiving a different relation between her teaching and student understanding, perceiving that she hadn't previously given students the chance to bounce ideas around with each other and construct their own knowledge.

I can only spend about 10 - 15 minutes in each room because I'm having to move all over the university. ... I think they are learning more. I think the less I teach, the

more they learn which is a very salutary lesson. ... I feel that I can gauge a greater level of interest in working out the answers to the problems than there was before. When I was always there to help and supply and explain every step of the way I think they had more trouble understanding. Obviously my explanations just confused the hell out of them. (laughs) So I think that this has been an improvement.

- I. ... you thought the learning experience was better. Tell me a bit more about that. Why do think that's?

I think that's because I didn't give them a chance. I didn't force them to think before. ... I think I was too ready to leap in and assist. Now ... they bounce ideas out, ask each other and they have more of that constructing of their own knowledge. ... The more I've taught it, the more difficult they've found it and I think "They can't be that stupid. I learned this by myself, you know. I sat down with a piece of paper and worked it out. Why can't they do that?" I think they *are* doing that now. ... It is just the easy way is to say "Well, you tell me." You tell them and they haven't worked through and constructed their own knowledge. (Lorraine3)

Lorraine's description refers to a critical aspect of the indirect object of teaching, that student learning involves the development of personal knowledge. It suggests that she was simultaneously aware of variation between her past and present acts of teaching and past and present understandings of how students learned. Lorraine was previously aware of developing her own understanding through working things out herself, but had not related this to how her students might come to understand. Her realisation could be interpreted as a prior awareness in relation to her own learning being evoked in relation to a new situation.

Angela also described an experience in which aspects of a prior awareness were related to a new situation. She described a consistently student-focused way of experiencing in relation to her post-graduate students, and perceived that this was "pre-disposed" by her teaching situation. However with undergraduates she perceived that she would be more teacher-focused:

I think I am the kind of person who if I was in an undergraduate sort of setting, and it was standard that you got up there and talked and did nothing else, my tendency to sort of want to have things all organised, in control ... I just get a sense of security out of that. Then I would probably stand up there, feel compelled to stand up and do all the work. (Angela1)

Nevertheless, in one of her first undergraduate teaching experiences she tried a small group discussion strategy which she often used with postgraduates. Her experience began to challenge her assumption that the undergraduates would have nothing to say because of their lack of experience.

I did a stand-in lecture for ... a second year undergraduate lecturer. In a room with 50 people, I mean just trying to get their attention was sort of “crickey”. ... I endeavoured to get ... the undergraduates to break up into ... tutorial groups. I got them to talk about a couple of questions, discuss that, and they did actually. I was surprised that they came up with decent ideas. That sounds dreadfully condescending, but they had something to say at the end of the 10-15 minutes. I had expected that they probably would have nothing to say. ... But ... it is much easier and more productive with the graduate students because they have more ideas to contribute, they have experienced [the subject] in some shape or form. (Angela1)

Angela was already aware of the critical aspect of students’ contributions to what is taught in her postgraduate teaching situation. By her second interview, she described a consistently student-focused way of experiencing undergraduate teaching, commenting on her need to “tune in” to where they are:

It's not the old thing of you've got to fill up the vessel, the empty vessel, with undergraduates ... There's lots of things ... that you can do that give them greater autonomy in learning and greater responsibility for learning. I would need there to be able to sort of tune in through experience with them ... just where they are at. (Angela2)

Lorraine and Angela both enacted student-focused acts of teaching for the first time in their teaching situations and as a consequence discerned and fused them with aspects related to

the direct and indirect objects of teaching. Frank described an experience which began with him bringing about a change in the indirect object of his teaching. In his first interview he wanted students to become competent and able to solve engineering problems (category C), but he doubted whether this actually happened. By his second interview he described his intention as:

I am trying to enlighten the students into realising that engineering is not technical problem solving. ... When you get some answers you've got to think what does that answer mean? what can I do with it? what's it good for? How about comparing it with another method. ... That is 99% of any engineering problem in real life.

In trying to enact his new intention, he created a situation in which students asked a lot of questions. His description suggests that he became simultaneously aware of a direct object of teaching as responses to students' questions and an act of teaching which was two-way and responsive. Both are critical aspects of student-focused ways of experiencing teaching.

I've said now you've got to get your own data and I've gone through methods of getting data, by experiment, by asking the library or places, and then I've said there's no right answer. ... Mind you I had trouble myself trying to work out, do tutorials, but it was self-generating. It turned out the students did the asking and I formulated my tutorial style from that feedback.

I. From the questions the students are asking?

Yes, most definitely. I've turned out...I've had to be much more flexible than I've been in the past.

...

almost every class I've been to, I go into a class with lecture notes and a little bit of panic ... thinking "I don't know whether I've got enough to cover the 3 hours" ...

Always too much, the 3 hours just goes. Gone, because of questions ...

...

some students want to continue on and on and on because they're interested, they're interested. (Frank2)

Frank's comments about student interest presented a strong contrast to his previous interview in which he felt that most students were there only for the degree and were not interested in learning. Several teachers expressed similar contrasts in previously taken-for-granted assumptions. These assumptions were not necessarily about aspects of teaching per se, but appear to be aspects in the thematic field of teaching. Some taken-for-granted assumptions might constitute constraints on whether teachers become aware of or capable of enacting new ways of experiencing teaching in their teaching situations. For example, Neil assumed that a lecture was a presentation until he focused on his colleague's interactive approach. Becoming aware of variation in how a lecture could be perceived related to Neil becoming aware of a new way of experiencing teaching in lectures. Both Lorraine and Barbara assumed that they were being helpful to students when they stepped in and did things for them, until contrary experiences challenged this assumption.

Being a learner/observer

Situations in which teachers are also learners afford the simultaneous experience of learner and teacher perspectives. These situations most often occurred in formal learning contexts, although Neil's experience of observing his colleague also fits within this theme. Different teachers described different aspects of the learner/observer experience. Angela focused on her experience of varying teaching strategies, and related these to her own teaching situation, which she saw as very similar to the situation where she was a learner:

I've actually picked up an enormous amount ... by actually experiencing how it can be done and I guess for me in [her course] and ... the Graduate Certificate, there is quite a lot of similarity in terms of the group, size of the group, the sort of level and the general age cohort. ... there is a lot of sort of parallels that I could actually apply, pick up and use fairly directly that in a sense were hard and fast teaching strategies. Even if you never said "use this" or "this is a possibility as a teaching strategy", it's there. (Angela2)

Frank's description also focused in part on variation in teaching methods but there was a simultaneous focus on how stimulating these methods were for him as a learner. Methods that he found stimulating were then reapplied with his own students:

The methods needed were ... the part that was missing; how to do it. The GCHE has come part way there. It's not the only thing because I've actually used some of the methods you used in your own sessions. And saw how I was stimulated, felt how I was stimulated and which parts of those were most stimulating and reapplied those.
(Frank2)

Through his experience of being a learner, Frank became more explicitly aware of the importance of students relating what they were learning to their prior experiences. He described how variation in his own ability to connect with prior experiences related to variation in the way he learns and variation in his feelings about learning. The focus in his description was simultaneously on the act and indirect object teaching, encouraging participation and stimulating students to think and make connections with previous experiences:

what I have noticed and I've taken other classes including your own as models, splitting it up and getting group participation much much more than I have been in the past ...
...
Splitting them into groups is to stimulate this ... "I'm going to be asked to do something in a minute so I'd better think." And that's the stimulating.

I. What are you hoping to stimulate?

Oh original thought, or relationship to previous experiences ... To me that's vitally important. ... Because I personally turn off if I can't relate to previous experiences. If I'm reading a text book, even if I know it's the Bible, gospel, and I can't relate my personal experiences to what I'm reading, I'll just look at the words without, you know, following. (Frank2)

While Angela spoke about “picking up and using” teaching strategies, and Frank on connecting with his own experience and being stimulated, Nick focused explicitly on reflecting on the relation between variation in teaching practices and how he engaged as a learner:

I guess seeing how you guys actually teach the classes and seeing different ways of doing, of running a class and seeing you practice and reflecting on that after a class and seeing how I engaged as a learner from that particular approach. (Nick3)

For some teachers, experiences of being learner/observers related to becoming aware of critical aspects of student-focused ways of experiencing. Neil’s description suggested that he became aware of a critical aspect of the direct object of teaching - using teaching material in a way which related to students’ responses. Frank became simultaneously aware of critical aspects related to the indirect object and act of teaching. He focused on learning as involving a relationship with prior experiences, and on group interaction which help students to experience this.

For Angela and Nick, who were relatively new teachers, the learner/observer experience related to experiencing variation in the range of specific strategies which could be used to enact student-focused ways of experiencing teaching. The emphasis, particularly in Angela’s description, was not on becoming aware of aspects of a new way of experiencing, but on broadening ways of enacting teaching within an already student-focused way of experiencing.

Being oriented towards experiencing situations in ways which afford change in ways of experiencing teaching

The above four themes all related to situations in which it was possible for teachers to experience some of the critical aspects of a student-focused way of experiencing teaching (category D). Teachers who became student-focused did discern critical aspects and discerning one aspect often related to discerning others. In these situations, these teachers

appear to have experienced particular relevance structures which focused their awareness on these critical aspects. The next three themes relate to aspects of the teachers' experience which seem to have oriented them towards experiencing these relevance structures.

Awareness of dissonance, dissatisfaction and/or a desire for improvement

In the interviews prior to or during the process of change, teachers who became student focused typically expressed a desire to change their teaching. Often, but not always, the desire to change appeared in conjunction with the teacher's awareness of dissonance between aspects of their teaching, some level of dissatisfaction or dislike of their present way of experiencing teaching and a perception that change was possible.

Neil and Ellen both expressed an awareness of dissonance between aspects of their teaching, in particular between the indirect object of teaching and the act and direct object. For example Neil described himself as suspecting that what he was actually doing in his teaching was not what he thought his teaching was about, and Ellen was aware that she was often spoon-feeding despite disliking it and perceiving it to be poor for learning. Awareness of dissonance was typical of teachers whose ways of experiencing changed, but it was not related to change by the time of the next interview unless a either dissatisfaction or a desire to change was also present. For example, in Lorraine's first interview she was aware that there was dissonance between how she taught and how her students might best learn. Despite this, she gained considerable satisfaction from enthusiastically sharing her knowledge with students and did not initially express a desire to teach differently.:

I think in the heart of every teacher there is an incredible know all. I know it all, let me tell you about it. I think it's an eagerness too. I know the (subject), I think it's a worthwhile thing and teaching to me is the eagerness to pass the thing I am crazy about on, or information about it to anyone else who will sit still and listen for 5 seconds. I'll bend their ears off. That's probably not, that's probably one of things as a teacher I need to get over because it is probably not one of the best ways of the

other person learning it. They might be going to learn much better by doing and experiencing and being around it and working things out for themselves. (Lorraine1)

Lorraine's way of experiencing teaching also seemed teacher-focused in her second interview. By her third interview, changes in her teaching situation had created a need for change. As described previously, she began teaching in a more student-focused way and had actually experienced students who were learning through "working things out for themselves".

More commonly, teachers who were aware of aspects of dissonance were also dissatisfied with at least some aspects of their current way of experiencing teaching and expressed a desire to change. Both Ellen and Neil fitted this pattern. Neil wanted to try something different in lectures, become more "useful" as a teacher and overcome student complaints whereas Ellen explicitly described herself as making a transition from "spoon feeding" to facilitating learning and encouraging students to take more responsibility. Both Ellen and Neil described the process of making the change as difficult or uncertain, but not as impossible. For other teachers, like Lorraine, there was no strong dissatisfaction but more a desire for improvement or a vision that teaching could be better. Lissie's description of why she sought to change her teaching was a case in point:

My academic history ... is something I'm trying to shake off as a matter of fact. When I did this course it was in some way much the same course ... we sort of would roll up to a lesson, if we could manage it, and busily take notes while someone talked for hours. And I'm heavily influenced by that kind of history. So starting work here full time is actually challenging for the whole of that which I'm actually quite pleased about. I think there are much better ways to learn, especially a subject like this. I'm certainly sort of looking around for ways of changing those patterns

...

I mean I'm not disgruntled with it or I'm not like unhappy with it in a sense that my university days and learning ... here was, you know, a terrific part, stage of my life. Fantastic. But it's a terribly tedious, boring way of doing something that is actually very exciting. It can be done a lot better than that. ... I don't know. I've sort of been

there, done that and now I want to do something a bit different. ... There's no particular sort of impetus or starting point. (Lissie1)

Neither dissatisfaction nor a desire to change teaching necessarily related to change in ways of experiencing teaching. Either, and sometimes both, were expressed by all of the teachers who became student-focused but also by most of those who did not. As will be described in chapter 7, what teachers focused on when they sought to change was critical. For both Ellen and Neil, the desire to change teaching was a desire to change from a teacher-focused way of experiencing teaching towards a more student-focused way. For others, the desire to change related to more limited aspects of teaching.

Putting teaching into focus

Several teachers described themselves as being open to noticing, or focusing on, aspects of a teaching situation which had not previously been in focus. Neil described himself as “paying attention” to interaction and Ellen commented on having time to reflect. Others described this in terms of a generalised sense of being open to looking, or putting teaching into focus. Putting teaching into focus was related to taking a more reflective and questioning stance and comparing thoughts with others:

You are much more aware of things that maybe don't work so well and you are interested in asking the question "Why?" and comparing notes with other people. I think just putting teaching into focus for a year ... that very thing makes you think about it a bit more. (Sarah2)

One way of interpreting the effect of putting teaching into focus is that the teacher then experiences different relevance structures for learning in their teaching situations. Aspects of the teaching situation which were previously implicit become explicit and open for variation. For example Matthew described that over the previous year he had become more aware of students' misconceptions and of how these differ.

I guess that's one thing that's probably changed without even realising it ... a much stronger awareness of the fact that, sort of where misconceptions can occur and how, and they're not necessarily all universal in different students simply because of backgrounds and the environment they're working in or studying in, or who their friends are ... I guess the context of their learning sort of comes into play as well.

I. Where do you think that awareness has come from?

I don't have a clue, ... I don't think I would've realised that unless I actually saw it happening ... though I can't see any reason why I wouldn't have experienced it previously so I think maybe what's happened is I've just been more, not alert, but more willing to be more open to looking at things, and ... to sort of sit down and think about what's happening, what's going on. [It] means that when I have experienced these sorts of things this year, they've sort of registered and sort of modified the understanding of what those misconceptions are. (Matthew2)

Only teachers who became or continued to be student focused gave descriptions related to putting teaching into focus, being willing to question what was happening in their teaching, and being open to different interpretations. Usually this was associated with being enrolled or deciding to enrol in a formal GCHETL course. Of the teachers who remained teacher focused, only Paula indicated a interest in thinking through her ideas on teaching, but this was related to seeking greater control and efficiency and better student reactions rather than being more generally questioning and open to a wider range of variation.

Reflective thinking informed by formal learning

Many teachers who became or remained student-focused described influences of theories of teaching and learning, literature or “expert” understandings of teaching and learning encountered in formal learning situations. These influences related to teachers reflecting on their prior experiences and perceptions in the light of these formal theories. Teachers described particular influences from ideas about approaches to learning (Marton and Säljö, 1976) and their relation to features of the teaching and learning environment (for example Ramsden, 1992), or ideas related to cognitivist or constructivist models of learning.

Formal theories enabled some teachers to become explicitly aware of critical aspects of student-focused ways of experiencing. For example, Frank repeatedly described the impact on him of becoming aware of the importance of prior experience for learning:

The bit that hit me most, because it's come back to me time and time again, that is the relationship between current teaching and past experience. The model that is in the textbook [Ramsden, 1992] of past experience, current teaching and how to draw on it. ... That's the part that, time and time again since then I've realised that. Well, even before that. I've realised it before that, that's one of the clues as well. But since then I've realised it "Gee, someone else recognises it, maybe it's true after all."
(Frank2)

Formal learning also appeared to have enabled Frank to see his teaching situation as one which afforded student-focused ways of experiencing teaching rather than prohibiting them. In his first interview, like Neil and Ellen, Frank expressed a strong dissatisfaction with the way he taught and an awareness of dissonance between the way he was teaching and his intention for students to understand. However he did not seem to see change in teaching as being possible:

It's a purely analytical subject, it has developed as that ... The person who did it before me and still does it when necessary, has done it his way and me not wanting to set precedents again have done it his way as well.

...

- I. So what do you do when you're teaching this subject?

...

Blackboard yeah, and the problem with that is if I just talk to the students I get blank looks, but if I start writing on the board, the students will start writing in their books and they write verbatim ... Some of them are obviously understanding what I'm doing - some of them are not getting it across at all ...

- I. So do you like doing that way?

No, I hate doing it that way. I hate it like a plague. However I do believe I'm stuck with it because of the previous ways it's done. If I dared to criticise my colleagues in the way they handle [subjects] I don't think my life would be worth living here.
(Frank1)

By Frank's second interview he no longer saw himself as being stuck with a transmission-focused way of teaching the subject. He described the GCHETL as providing a trigger which gave him permission to bring to the foreground, see as important and enact a way of experiencing teaching which differed from his colleagues and from his prior experience.

I've only recently come to the conclusion that teaching from textbooks must be kept in its place. ... At that same time I believe it ought to be an injection of reality. Reality's really about getting your own data and finding out what the answer to it really means, what you do with it.

I. So where did that realisation come from?

I've always known it but I never sort of brought it to the front because I've thought maybe it's not important because nobody else seems to think it is.

I. What brought it to the front?

...

I can only say it's a combination. The trigger itself was the GCHE but it was only the trigger. All the data and information was already there. All the experiences, my own experiences, other people's experiences, all the feedback I've had has always been there, well, developed over a long period of time. And the trigger in fact was "you're allowed to teach this way. You're allowed to teach this way. It's not against the rules to provoke original (pause) to change things." (Frank2)

Several other teachers who became or who were already student-focused described how awareness of formal theories had helped them to feel more confident about their teaching:

Well having read Ramsden and few other books which explain concepts and how things work and, and what you are looking for, you have a different perspective on

the way you look at things and are more confident because you understand the theory behind it rather than seeing what is happening on the surface. (Sarah2)

Teachers also described perspectives developed through formal learning as enabling them to interpret what was happening in their teaching situations and to respond in different ways. For example, Ellen described her new understanding of the relation between teaching and students' approaches to learning as empowering and enabling her to try to promote deep approaches to learning. Sarah described how learning about teaching in a formal sense related to her starting to look at teaching in different ways, reflect critically on her previous thinking, share thoughts with others and be receptive to new ideas.

Well it is like any subject when you actually start to learn it in a formal sense as opposed to just sort of have some ideas because of some experiences you have had. When you look at it in a much more structured way ... you start to look at it in different ways and think of things that you have done and you think "yeah, well that would explain why that didn't go down too well" and "maybe they'd do better if I did this". ... I thought I knew a little bit about teaching. When you see people who really know it and can say "well, let's look at it this way, let's think about this, let's think about that", it forces you to question your own thinking, to be receptive to different ideas, things that you never even thought of before and you think "oh" ... and then sharing those ideas with other people who said "well in this situation this has happened and I would like to think about this". And the fact that you can approach it from a totally different angle which was a better way of doing things and having that formal structure of questioning and expertise in the course has helped very much in that. (Sarah3)

While from my perspective Sarah already described her teaching in a student-focused way, she felt that she had become more consciously student focused.

I think doing the course and actually having to really think about these things like "how do you know if the students actually learn something". It is all very well for us to stand up in front of the class and do things but at the end of day how do you know they have actually learned something, actually understood something and having that foremost in mind a lot of the time has helped and I am much more conscious that

there is a two-sided process. That they have to understand and I have to make sure they understood. (Sarah3)

Kate, who also described a student-focused way of experiencing, described how becoming more explicitly aware of the idea of being a reflective practitioner enabled her to be more reflective about learning and maintain her student-focused perspective:

What has influenced me a great deal is, has been the notion of becoming a self-reflective practitioner that perhaps in the past I might have done that unconsciously, but now I'm actually a lot more aware of how that process occurs. ... it's helped me as a student be reflective about how I'm learning as a student and about how that can affect how I then teach students. ... Because through practising that, you maintain the student-centred perspective I suppose in your teaching. (Kate2)

From Kate's perspective, having theoretical knowledge and a language for describing teaching and learning issues enabled her to be more consciously aware of her previously unconscious or implicit approach to teaching and learning. She saw her knowledge as "much more concrete and sophisticated" and was able to reflect more on the relations between her teaching and her desired learning outcomes and to feel "more professional":

I feel like I got out of that course was a formalising of a knowledge that had previously been probably sort of fairly instinctive, intuitive, but nonetheless an approach to teaching and learning that I've been practicing in my previous work

...

I feel that I have a much more concrete and sophisticated knowledge of what I'm doing and what my approaches are. I mean in practical terms I'm a lot clearer now about writing courses and about thinking about and developing the learning outcomes that I hope for and how I'm going to achieve those through the process of teaching. ... I'm more able to reflect on what I'm doing in a disciplined sort of way, a useful way.

...

Having the language and access to the theoretical underpinnings of teaching and learning issues ... has been immensely useful and reassuring - really. I suppose this is the beginning of the process of feeling a bit more professional in the field too. (Kate2)

The formal theories and related learning situations which teachers described were ones which afforded awareness of critical aspects of student-focused ways of experiencing university teaching. Teachers who became more student-focused described how formal theories made them aware or changed their awareness of critical aspects of teaching. Once these critical aspects had been discerned, formal theories afforded explicit interpretation of and reflection on teaching and learning experiences in relation to these aspects. Both teachers who became student-focused and those who continued to be capable of experiencing teaching in student-focused ways typically focused on the role of formal theories in enabling them to reflect differently on their understandings of teaching and learning and improve their teaching practice.

Most of the descriptions related to this theme were related to experiences or understandings which occurred as a result of participation in the GCHETL. Not all teachers who participated in the course became student focused. Those who remained teacher-focused tended to focus on different aspects of their course experiences, as will be described in chapter 7. They did not describe effects of formal learning experiences as enabling them to reflect differently or to inform their reflection with formal theoretical perspectives on teaching and learning. Their descriptions suggested that they had not discerned and focused on the same aspects of their course experience as did the teachers who became or were already student focused.

As well as enabling teachers to engage with formal theories, formal learning situations also afforded the opportunity for teachers to experience variation in aspects of teaching by comparing thoughts and discussing ideas with colleagues. Most teachers who became student focused and some of those who remained teacher focused described an interest in discussing teaching with others. The teachers' descriptions suggested that these discussions typically focused on comparing teaching strategies and how they work in practice, or comparing teaching contexts, in particular discipline areas, class sizes and types of students. As will be illustrated in the next two chapters, this seemed related to teachers developing greater confidence in using or willingness to use particular strategies, but there was a lack of

evidence that these discussions in themselves related to teachers becoming student focused. Discussing teaching or comparing teaching with others was therefore not constituted as a separate theme from either putting teaching into focus or reflecting in ways informed by formal learning.

Patterns of variation and the process of change

The experiences of Neil and Ellen and their colleagues provide evidence that it is possible for teachers' ways of experiencing teaching to change from teacher-focused to student-focused. The process of change involves being oriented towards discerning the critical aspects of a student-focused way of experiencing teaching, simultaneously discerning and focusing on these aspects, becoming capable of enacting a student-focused way of experiencing in actual teaching situations and desiring to make the change. This section summarises the features of critical experiences which relate to change in terms of four patterns of variation (Marton, Runesson and Tsui, 2003). It then summarises the features of teachers' orientations which relate to change in ways of experiencing, and leads into the interpretations of why some teachers change and others do not which will be pursued in the following chapters.

Teachers' descriptions suggest that change involves a gradually expanding awareness (Martin and Ramsden, 1992) and a shift in focus. While teachers described particular critical experiences which had contributed to the process of change, change in general came about through complex and cumulative patterns of these experiences over time. For example Ellen described herself as beginning a transition in her first interview, and still felt that she was making the transition in her second interview eight months later. Other teachers explicitly described a gradual process:

I haven't at any stage thought "Oh" you know "what an incredible revelation". I think it's been much evolutionary rather than revolutionary ... hasn't been any sort of sudden paradigm shift or whatever. It's hard to sort of picture that as you can see the

change but there's been no sudden step changes. It's just been this gradual change.
(Matthew2)

Critical experiences which contributed towards teachers becoming student-focused took place in both everyday teaching situations and in formal learning situations. Different situations appeared to afford different kinds of patterns of variation which related to different aspects of student-focused ways of experiencing teaching. The four patterns of variation – contrast, generalisation, separation and fusion - outlined by Marton, Runesson and Tsui (2003) provide a useful way of distinguishing between different patterns and their relations to change.

Most of the teachers who became more student focused experienced contemporaneous variation in dimensions which corresponded to critical aspects of student focused ways of experiencing. Becoming aware of the critical aspect in the present involved comparison with past experience. The critical situation was one which afforded contrast between aspects of the same dimension of variation and separation of this dimension from others (Marton et al, 2003). One example was Neil's experience of contrast between teaching all of his prepared material in a prepared sequence compared with using prepared material selectively in relation to students' responses. The act of using the material was contrasted and separated from the prepared material in itself.

Situations which were more powerful afforded the simultaneous experience of two or more critical aspects related to the act of teaching, direct and/or indirect objects of teaching, enabling teachers to experience the contrast, separation and fusion patterns of variation (Marton et al, 2003). Lorraine's experience of the tutorless tutorials was like this, enabling both contrast between past and present experiences of aspects of the act and indirect object of teaching and fusion of student-focused aspects of the related dimensions. This fusion was accompanied by a change from dissonance to consonance in Lorraine's descriptions of teaching. Some teachers, like Frank and Lorraine, identified particular critical experiences as being triggers or catalysts for fusing aspects of their new way of experiencing teaching, against an overall pattern of previous experiences.

As described above, most critical experiences involved separation of some aspects of teaching from teaching as a whole, and contrast in related dimensions of variation. Instances of separation also related to separation between aspects of teaching and aspects of the teaching situation which were in the thematic fields of teaching. One example is Angela's separation of the level of her students from the act of teaching. Rather than simultaneously varying these such that she used one-way transmission with undergraduates and two-way interaction with postgraduates, she tried using a two-way interactive act with undergraduates. Separation was followed by fusion with other aspects of a student-focused way of experiencing teaching as she realised that undergraduate teaching could also engage with some of students' prior experiences.

The pattern of generalisation, in which multiple instances of the same aspect are discerned, related to teachers' experiences of variation in the strategies which could be used to enact student-focused ways of experiencing teaching. This most often related to situations where a teacher was a learner/observer but also to the teachers reading about or talking with others about teaching strategies and how they "work" in practice. Generalisation in different strategies for learning from students, finding out about students' understandings and perspectives and responding to them seems necessary in order to broaden the teachers' capability for enacting student-focused ways of experiencing teaching. However, as will be described in chapter 7, focusing only on generalisation in strategies is not related to becoming student focused.

The complexity of these patterns of variation seems one reason why change in teachers' ways of experiencing teaching is a gradual and uncertain process. The overall pattern of critical experiences related to becoming student focused involves experiences in which teachers:

- become aware of contrast between critical aspects of student-focused ways of experiencing teaching and previously experienced aspects of the same dimension of variation;

- separate aspects of different dimensions of teaching from each other and from dimensions of the teaching situation in the thematic field of teaching;
- fuse complementary aspects of student-focused ways of experiencing teaching, reducing dissonance between these different aspects;
- experience generalisation in instances of the act of teaching, through experiencing variation in strategies which can be used to enact a student-focused way of experiencing.

These four points relate to aspects of critical situations which teachers needed to experience, but not necessarily to whether teachers will experience them. As described above, teachers also needed to be oriented towards these situations in ways which enabled them to discern and focus on these aspects. Themes which related to teachers being oriented towards discerning and focusing on aspects of student-focused ways of experiencing teaching were:

- awareness of dissonance in aspects of teaching, dissatisfaction with aspects of teaching and/or a desire for improvement;
- putting teaching into focus and being open to experiencing different aspects;
- reflective thinking informed by formal learning which enabled teachers to interpret teaching situations in particular ways, feel more confident about their teaching and perceive that particular changes were not impossible.

Awareness of dissonance, dissatisfaction and a desire to change teaching appeared to orient teachers towards discerning aspects related to reducing dissatisfaction or achieving improvement and enacting related changes. Putting teaching into focus oriented teachers towards thinking about and questioning their teaching and comparing ideas with others. They became open to discerning aspects of their teaching and teaching situations which were previously undiscerned. Reflective thinking informed by formal learning served a broader orienting role, appearing to enable teachers to discern some critical aspects, develop new perspectives for looking at and interpreting teaching, feel more confident about teaching and legitimise student-focused directions for change. These orientations

related to the relevance structures that teachers experience in critical situations for learning about teaching and enacting what is learned in new situations. These relevance structures include affective aspects such as teachers' dissatisfaction or confidence related to teaching.

Many teachers described discussing their teaching with others, but these discussions seemed to have afforded the experience of a range of dimensions of variation, such that different teachers might experience them as having different relevance structures. The relations between what teachers focused on and their ways of experiencing teaching and change in teaching will be described in chapters 7 and 8.

Chapter summary

This chapter focused on how change came about for teachers whose ways of experiencing changed from teacher-focused to student-focused. These teachers all described combinations of critical experiences and being oriented to these experiences in ways which related to becoming aware of critical aspects and having the desire to enact new ways of experiencing teaching. However, some teachers in the study experienced similar situations, expressed dissatisfaction with aspects of their teaching and had a desire to change, but remained teacher-focused. In situations in which other teachers had critical experiences, such as being a learner/observer in a formal course, these teachers did not have such critical experiences. They focused on different aspects of these situations, and experienced variation in some aspects of teaching but not in their overall way of experiencing teaching. The next chapter focuses on why some teachers changed their ways of experiencing teaching and others did not.

All of the teachers in the study described experiences of changing their teaching. Perhaps this is not surprising, given that the interview process included several questions about whether there were differences in their teaching, the way they thought about it and whether there were things which had influenced their teaching since the previous interview. But there

were distinct differences in what the teachers focused on when they described change in relation to their teaching, in how they accounted for the change occurring and in the intentions that they described for changing their teaching. Teachers' intentions in seeking to change teaching, and the aspects of teaching they focused on changing were critical in distinguishing those who changed their ways of experiencing teaching to become student-focused from those who remained teacher focused.

The next chapter focuses on the qualitative variation in what teachers focused on and what their intentions were focused towards when they sought to change their teaching. It describes variation in ways of experiencing change in teaching from the teachers' perspectives. Chapter 8 then relates this variation to the teachers' ways of experiencing teaching and whether or not these changed over time, and to the critical situations and orientations described in this chapter.

Chapter 7

Ways of experiencing change in teaching

The previous chapter described my interpretations of change in teachers' ways of experiencing teaching. Some teachers' ways of experiencing changed from teacher to student-focused. Others did not change their way of experiencing, even though they were exposed to some of the situations which related to change for their peers. In situations which afforded the discernment of critical aspects of student-focused ways of experiencing teaching, these teachers focused on different aspects. They experienced different relevance structures and focused on different dimensions of variation. This chapter focuses on why some teachers experienced change and others did not, by focusing on variation in teachers' experiences of *change in teaching*.

In this chapter, I describe two intertwined perspectives on variation in change in teaching, corresponding to the "two faces of variation" described by Marton and Pang (1999):

- Variation between qualitatively different ways of experiencing change in teaching across the group of transcripts from teachers. This face of variation is represented in a classical phenomenographic outcome space, categories of description and the relations between them. It is iteratively constituted throughout the research process as a relation between me as the researcher and the teachers' ways of experiencing.
- Variation experienced by teachers in relation to changing their teaching, where teachers' awareness of variation is suggested by their use of contrastive rhetorics (Delamont et al, 1998; Hargreaves, 1984).

The distinction between these perspectives on variation was described in chapter 4.

Change in teaching comes about as a result of learning, and like learning has a range of qualitatively different focuses and related meanings. Change in teaching, like learning and teaching, has how aspects, an act and an indirect object, and what aspects, a direct object. The analytic framework that I have used for describing a way of experiencing change in teaching is shown in Chapter 3 in Figure 3.1. In my analysis, this framework is used to relate each way of experiencing change in teaching to the dimensions of teaching on which variation is experienced and the relevance structure that the teacher experiences in a situation of learning about teaching.

I have chosen to focus on broad contexts within which to describe experiences of change in teaching, in order to capture the full range of variation in the teachers' descriptions. As discussed in chapter 4, participants for the study were selected on the basis that they were engaged in contexts in which they might experience relevance structures and dimensions of variation necessary for changes in ways of experiencing teaching. In addition to these contexts, some participants experienced other changes in their teaching situations - changing universities, changing the subjects they were teaching, changing from teaching undergraduate to postgraduate students or vice versa. I have included in my analysis teachers' descriptions of changing teaching in whatever context they have occurred - whether through beginning to teach a new subject or coming to experience teaching differently in the same subject with the same students. Also, in order to capture the range of variation indicated in the transcripts, I have chosen to include teachers' descriptions of intentions to change teaching, as these too reflect teachers' awareness of the experience of changing teaching.

Variation in teachers' ways of experiencing change in teaching

From the teachers' descriptions, I identified four categories describing qualitatively different focuses for change in teaching, the first of which had two sub-categories. These are, in order from least to most complex:

- Category cA: Change in teaching as changing the content which is taught in order to improve teaching
- cA1 changing the selection of content included or excluded in order to improve teacher interest or student motivation
 - cA2 changing the way the content is organised for and represented in teaching in order to improve teaching efficiency or teacher comfort
- Category cB: Change in teaching as changing teaching strategies in order to improve teaching
- Category cC: Change in teaching as relating teaching more closely to learning in order to improve students' learning
- Category cD: Change in teaching as coming to experience teaching in a more student-focused way through improving understanding of teaching and students' learning

The categories outline differences across the set of interview transcripts in the focus and meaning of the changes that teachers described in their teaching and the focus of the intention for change. The categories and the relations between them were constituted through focusing on variation in the direct and indirect object of change at the collective level. This related to what was varied and what was held invariant in the teachers' descriptions of change.

These categories have a different relation with individual teachers' awareness from the categories describing ways of experiencing teaching. Unlike the categories for ways of experiencing teaching, which were seen as an inclusive hierarchy, these categories form a semi-inclusive hierarchy. Category cD includes category cC, which includes cA1, cA2 and cB. Category cA2 includes cA1, but categories cA and cB are seen as parallel rather than inclusive. The absence of an aspect in a particular category may mean that the aspect is absent from the teacher's awareness, but may also mean that it is held invariant and in the background while a different aspect is varied and in the foreground. This is particularly the

case for categories cA and cB. Many individual teachers described experiences of change which related to both of these categories.

Table 7.1 Outcome space for teachers' ways of experiencing change in teaching

Structural → Referential ↓	Teaching focus	Student learning focus – teaching in the background	Teacher understanding and student learning focus
Content selection organisation	A1 A2		
Strategies	B		
Relating teaching to learning		C	
Experiencing teaching in a more student-focused way			D

In the first two ways of experiencing change in teaching the focus for the teacher is on what is taught (cA) or how something will be taught (cB), with the intention of improving teaching. In category cC, the focus is on changing the way teaching relates to learning, with the intention of improving students' learning. Either or both the content or the teaching strategies may change. In category cD, the focus for teachers is on how they have learned to experience teaching in a more student-focused way, with the intention to understand teaching and learning and improve their students' learning.

In the following sections, each of the categories is described in more detail, beginning with how it is delimited and distinguished from other categories. I then describe the dimensions

of variation that teachers focus on, how awareness of variation was brought about and the teachers' intentions for change which relate to the relevance structures they experience.

Category cA Experiencing change as changing the content which is taught

In descriptions related to category cA, the focus is on changing the content that is taught. The focus of change is on a limited number of aspects of the *what* or direct object of teaching. Teachers' descriptions indicate an awareness of variation in the content taught, usually between one time a subject is presented and the next. Of course most university teachers update or change some of their subject content each time they teach, and this is implicit in the more complex categories which include this one. What distinguishes this category from others is that the teachers' awareness of variation between different presentations of a subject, or between a new subject and previous ones, seems focused on variation in the content in relation to the teacher's interests, teaching preferences and ways of understanding. Teachers' teaching strategies and overall subject designs are held invariant, and students' learning is in the background and taken for granted.

There are two sub-categories of this broad category. In category cA1, what is changed is the type of content - its selection and what is included or excluded. In category cA2 the focus is on the organisation and representation of the content - its sequencing, the links between its parts and/or the way in which these are represented in teaching resources or presentation.

Category cA1: Changing the selection of content included or excluded

In this category, teachers change elements of the content they teach with the intention to add into their teaching the aspects of the content that are perceived to be more recent, important or interesting for them, whether this be a new theoretical perspective, different literature, or more practical or professional examples. Variation is brought about on the newness and level of interest of the content, where some content is perceived to be

intrinsically interesting and other content boring. There are two intentions for the change: keeping the content up to date and maintaining the teacher's interest.

one thing I discovered that I do, is that I stress different things different semesters because it makes it more interesting for me. (Sam3)

Teachers most often described changes related to this category in the situation of preparing for teaching. In Frank's first interview, he described his preparation in a subject he had taught before as follows:

Well a lot of it's repeat, repeat of what I've found successful the previous semester, I'm not going to try and reinvent that. The things that I usually work on are the things that I found didn't work and I just change them, by, I look for articles, current magazine articles, that are of interest and I summarise them and put them on the overhead projector, and I talk about them ... things like that, current topics which generally I've found seem to be of interest. But there are certain things that I have to proceed with, like methodologies. They tend to be boring. ... But the preparation is mainly in generating interesting information, and preparing overheads etc. (Frank1)

Frank's description indicates a bringing about of variation in the interest level of the content which he uses between one semester and the next. The ways in which Frank seeks to change things which "didn't work" are described in terms of bringing in new content which is perceived to be more interesting, particularly when contrasted with the material that he has to teach. Content is described as if it is inherently interesting or boring. Content which is interesting to Frank might also "seem to be of interest" to students, but students' own interests and learning are not mentioned.

Another teacher's description illustrates the intention of keeping the content up to date. Variation is brought about on the recency of the content with the stated intention of making it "appear as though the lecture is covering recent material". The majority of the notes and the teacher's delivery are held invariant:

I haven't had to spend as much time preparing for it having done it in for two semesters previously. ... I can go in there now and just do it without really having to think too much about it. ... I don't have to spend so much time beforehand actually writing notes. It's already there. I just have to deliver it now.

- I. So when you're preparing for classes now, what do you do for your preparation?

I try to look for new things, particularly now that I'm on the internet. ... the stock exchange here, for instance, has a home page. It has an education section on it which has a lot of interesting information about the types of things we look at in [the subject]. So, I've tried to incorporate that to make it appear as though the lecture is covering recent material. So it is really just supplementing each semester's work with whatever is current. (Shane2)

Variation in this category seems discerned simply through the teacher encountering new material and experiencing it as interesting. The act of changing teaching is an act of supplementing or replacing old or boring material with that which is new or interesting. The teacher's interest in new content is an affective aspect of this category which distinguishes it from others and relates to the relevance structure for change. Teacher interest may have priority over other aspects of teaching. For example, Paula, an experienced teacher, described variation in both students' feedback and her interest in the material. Her intention focused on maintaining her interest and creating synergy with her research, but she saw a conflict between this and students' feedback on her teaching:

I have had this dilemma before. It's that I feel like I get better student feedback when I teach material that I am bored with. (laughs) OK? And when I teach material that is new to me it feels as though the class is good because I am interested in the material but I don't get such good feedback. ... This is my dilemma at the present moment, you know like there must be a strategy for teaching interesting material but not irritating students by making that clear all the time. ...

- I. Do you have some current thoughts on that?

Well you know my immediate reaction is I should work harder. I should do more preparation ... but the reality is I want to put more effort into other things. I want to

do this editing and research and I guess I am just puzzled about how you get the synergy right but I know that is the sort of general problem isn't it. (Paula3)

In summary, what distinguishes category cA1 from other categories is teachers' focus on changing the content with the intentions of maintaining their own interest and/or keeping the subject content up to date. Variation is brought about in the newness and level of interest of the content. When a teacher encounters new material which is interesting for them, or when he or she is bored with what is being taught, it appears to create a relevance structure for change in the content. Teachers may also describe change related to this category as purely brought about by external reasons, such as being given a different subject to teach or having to respond to a subject review.

Category cA2: Changing the way the content is organised for and represented in teaching

This category includes elements of changing the selection of content, but unlike in Category cA1 the focus of change is on how the content is organised for or represented in teaching, including the ordering of the content and the relations between its parts. Variation is brought about in the teacher's representation of the content in their notes or resources or in their explanations. The emphasis is still on variation in aspects of the direct object of teaching but there is a related focus on variation within an explanatory act of teaching. Teachers may become aware of variation in the way in which they understand the content and may seek to represent their new understanding in their teaching, or may perceive variation between a colleague's content organisation and their own. The nature of the affect described in relation to this change focuses on increased comfort in the teacher's teaching of the content, whereas in Category cA1 it focused on the teacher's interest.

How variation is discerned appears to differ between different teachers, but common themes seem to be the experience of teaching the content, having time to think differently about it or being involved in a situation which requires thinking about the subject content differently. In the following quote, Ramesh describes variation in his own understanding of

the content, and therefore variation in the way he can represent it between the first and second times that he teaches his subject. He understands it differently, so he can tell students about it in a different order and with different emphases.

I feel more comfortable this year because most times notes are ready OK? I have the time to think more about it and read more about it. From the experience then I can say I have to include some stories behind a particular topic. The other important thing is I learnt, learning much more and more is how to connect from one topic to other topics. The relevance, see. That is very important. ... Teaching this topic in certain order and even in a particular lecture ... to tell students what is the connection. See the subject that I taught last semester, or last year, I can sum it up. So I know everything, right, when to teach you know ... I can give them a bigger picture you know? If you are trying to teach first time that is - I find that I couldn't provide to the amount that I like it you know? The bigger picture about it. (Ramesh 2)

In common with Ramesh, Eric also tries to represent his own changing understanding in his teaching. Through examining the literature in the context of his own studies, he has gained new ways of explaining and exploring the material that he teaches.

Well I mean I suppose the biggest thing for me personally is the study that I'm doing towards my doctorate. ... I've been able to examine the literature and I've been able to examine the assumptions behind the literature. I've been able to look at the words and the language that they use to describe it ...

- I. Can you elaborate a bit on what specific influences you feel it's had on your teaching?

It's allowed me to explain and explore the material in a new way. And I think in a way that hasn't here before been done in that subject area. Ok. So it's allowed for a more critical approach, I believe, to the material. (Eric3)

While Ramesh and Eric became aware of variation in their own understanding, Shane perceived variation between his colleague's lecture notes and his own sense of what lecture materials in the subject should be like. His description intertwines aspects of both

categories cA1 and cA2. Variation is brought about on the selection and organisation of the content and the way these are represented in lecture notes, resources and explanations.

The lectures were due to start on the Monday. ... The notes were available and everything, they just had nobody to teach it. And so that was my introduction to it. And so at the moment I'm still using the old notes but I'm going through the process now of re-writing them, mainly to suit my own style of teaching and also to supplement those notes in areas which I think are lacking. So, the framework is really there, it's just up to me now to adjust it.

- I. When you said you're changing them to suit your style of teaching, what are the kinds of changes that you're making?

The overheads themselves, from my point of view, in lecture overheads, if you put too much in them they just overwhelm the students. You really should just include the key points and then elaborate on that in your actual speech. I'm just trying to weed out a lot of the unnecessary things and also a lot of the overlap. ... Although that's important, to go back over the old stuff and see the links between the various lectures, I don't want to waste too much time on that. And by taking that out I'm able to reinforce particular areas and also elaborate on them. ... The book itself is, on which lecture notes are based, is quite broad. So I'm supplementing that with other more theoretical based books just to build up certain areas.

- I. So how do you choose which areas you build up and which areas you

I think the answer is really in terms of the areas I feel that are more important. ... Something I'm trying to do is relate everything, because the lectures themselves, the theoretical content is the basis for what they're actually doing for their assignment, to try and get the students to see the link between the practical work and how that differs with the theory.

- I. What are your reasons to try and do that?

Just to, I think if the students know why they're doing that, they're going to have more interest in it. But if they can't see the relevance of what they're learning then perhaps

they won't be as interested in it. So I'm trying to stimulate them in becoming more interested in the subject. (Shane1)

In Ramesh, Eric and Shane's descriptions, change in the teacher's understanding or organisation of the content is in the foreground. Shane's teaching style is taken for granted – something that the materials must be adapted to suit. For these teachers, organising the lecture notes into a comfortable form logically precedes thinking about other aspects of teaching.

So far as the lectures are concerned anyway, I just don't have time at the moment to re-write the whole set. So if I do half this year and if I do the subject again, do the other half. So once I've got it into a format with which I'm comfortable, then I can look for it in different aspects of the way I teach it. It's difficult if your raw materials are in a format with which you're not comfortable. (Shane1)

I've got my notes. I can concentrate on trying to present the material well rather than organising the material. (Sam2)

The intention of change in this category focuses on the improving the teachers' comfort or enabling them to teach more effectively. Teachers may also assume that if they understand and present the content in a way which is more organised, better represented or more critical then students will be able to see the connections that they make. Variation is brought about on students' potential interest in the subject and on examples which the teacher sees as more or less relevant to students, but not directly on students' learning.

In this category there can also be an endpoint to change in teaching. Once the teacher is happy with the material then time can be devoted to other things:

I'm doing quite a bit of research and publishing a lot of stuff at the moment.

...

I'm lucky that I've been teaching the same two subjects now for well, [subject name] for the last six semesters, and the post grad one for about four I think. ... And so over that period of time I've sort of been able to develop the material to a point where I

am really happy with it and it's enough for me to continue using what I've got without any major changes and so that's frees my time for other things. (Shane3)

In summary, what distinguishes Category cA2 from the others is the teacher's focus on the organisation and representation of the content for teaching, with the aim of improving the teaching of the content. Variation is brought about in how the content is organised, or represented by the teacher, including the emphases given in explanations. The affective aspect related to this category is teacher comfort with teaching materials and explanations. Relevance structures for change are experienced in situations where the teacher perceives a difference between his or her current understandings or preferred structure or emphases in the subject material and the understandings, structure and emphasis represented in previous subject materials and forms of representation.

Category cB: Experiencing change in teaching as changing teaching strategies

In this way of experiencing change, what are changed are the strategies that the teacher adopts. Whereas in categories cA1 and cA2 the teacher's focus is predominantly on changing aspects of what is taught, in this category the teacher's focus is on variation in the act of teaching. The intention for change is to solve a problem in teaching, improve the teacher's comfort, teaching efficiency or perceptions of effectiveness or sometimes to improve the students' motivation and reactions to teaching. Variation is brought about on teaching strategies and the teacher's feelings about whether these are working. Variation may also be brought about on student reaction to these strategies, but not on student learning. Teachers are focused predominantly on their acts of teaching:

One of the things I did in the [class and subject] was that I tried a variety of different teaching. ... I did it a few weeks just by overheads, just overheads, and then I did it for a few weeks with just writing on the board ... And I handed out my notes with the overheads, and then I had handouts of my notes and writing on the board. And I just asked the students what they preferred. About half and half was about overheads and handout of the overheads and handout of the notes and writing on the board. One of the things is that when I ... have overheads is I go too fast. What normally takes me

fifty minutes to write on the board, I was finding I was getting through in maybe 35 minutes on overheads. ... So I don't do that any more. So, what I did in the end was just handed out my notes and wrote my notes on the board, which sounds stupid. ... So as I write on the board they can do the same and that gives me time to think as well. (Andy2)

Andy's intention in changing his teaching strategy in his lecture focuses on him trying to gain more control in his teaching. Variation is brought about on his lecturing strategies and the pace at which he gets through the material. Having and going through notes are held invariant. He asked students what they preferred, but his choice of strategy seems to have been made on the basis of his own comfort and sense of control over pacing. Another teacher, James, also seemed focused on gaining control. He described his intentions for fixing up his teaching methods in terms of learning to enthuse and motivate his students so that he won't lose his temper with them.

Maybe because I am getting old and cranky I tend to lose my temper with the students a lot. I think it is because I am getting old and cranky. I spent 15 years as a manager, everybody bowing and scraping at me "yes sir, right away. At once sir, yes Mr [name], right away, at once." Then I got all these pimply youths ... ignoring me looking out the window when my pearls of wisdom are gushing out. I tend to lose my temper which is obviously very bad, very poor, very poor and obviously I need to learn calmness and tranquillity in my pedagogical method and I think I can do if I can learn to enthuse and motivate and excite people. I think losing my temper is just a symptom of poor teaching methods. Fix up the teaching methods, that will go away. (James1)

Other teachers adopted new strategies with the intention of improving teaching efficiency and making things easier for themselves. Shane sought to reduce his administrative load by putting material on the internet:

We've sort of put a lot more stuff on the net now too. ... we're using it mainly at the moment just to distribute material to students. They can just download it and take it home. Save them coming to me, collecting a disc, copying it, bringing it back. Again, it's really just like an admin thing. ... I've really got to say that admin drives

everything in terms of your approach to not only assessing the students but also the distribution and materials and the types of things that you teach them. I didn't really appreciate that until I did actually fully take over the course. (Shane 3)

In the above examples, teachers experience relevance structures for change in situations where they feel dissatisfied with their own performance or teaching-related workloads. For other teachers, situations where the teacher feels uncomfortable or dissatisfied with students' reactions to teaching appear to create a relevance structure for focusing on new strategies. The teacher's intention is to improve teacher control or management of their teaching situation, and new strategies which relate to these concerns are discerned and focused on. For example, Chris described how difficulties in his tutorial related to him focusing on his colleague's suggestion for using groups and to him thinking differently about this strategy than he had previously:

I just have never really thought much about using groups, groups for teaching purposes. I've tended to stick at tertiary level to seminars and workshops, pretty traditional methods, but in some instances I've actually found it better, it has worked. And with people like [a colleague], I'd say, "well how did you go with this session" where we were both tutoring in the one area "I was nearly hoarse by the end of it and the students didn't know what was going on". Or "No one had read in the session". He said "why didn't you just break them up into groups and get them to talk", and I thought, "oh yes, I suppose" and I did try it and it worked quite well but then after developing that a bit more, and I mean things I did in undergraduate Dip Ed started floating back, like, "oh yeah, so and so doesn't talk in class, we'll put them with other people that are a bit more talkative" and the people that actually came out in group discussion were actually quite lively, whereas they wouldn't have been in a broader group. So just those sorts of things. I think actually getting back into full time and thinking more about teaching strategies where as when part time it was very much rushing in off the street, I'd just got prepared and that sort of stuff. (Chris2)

Like in category cA2, some changes in teaching related to this category may be seen as having a logical endpoint which happens when the teacher gains control or the perceived teaching problem is solved. Other changes, especially those involving technology, may be focused towards achieving different intentions. In addition to increasing efficiency, some

uses of technology seemed focused towards the teacher being seen to be innovative or up to date:

Like particularly with the net stuff, [a colleague] has just been so far ahead of all of us in terms of that. And a lot of the stuff that I'm using, I've just sort of stolen off him. (laughs)

- I. So what was it about [the colleague's] stuff that you said "oh, here's something I'll steal."

Oh, it just provided a simple, and an alternative means of doing particular things I think. The assignment for instance ... previously they just wrote it down on a bit of paper and gave it to me. ... Now what I've got is a standard form on the web. They can log in with their student name and number and they've just got to type the numbers in. And the program will tell them if they've met the criteria here and whether it adds up to 100% or whether they've got the minimum number of assets or not. And they enjoy it too. They sort of, I remember the first time ... when we got the course outline up on the web ... I put the whole thing up on the screen and they just loved it. They, wow, they sort of think you're doing something really innovative. But as a tool for like processing information and sort of handing information around the students, it's really very good in that respect. (Shane3)

The above examples illustrate the way in which variation is brought about on teaching strategies, the teacher's affective responses to teaching and students' reactions or behaviours related to the strategy. Student reactions which are opposite to those desired by the teacher may relate to feelings of frustration or disillusionment. Often the new strategy is abandoned.

What I originally tried to do was lecture 20, 25 minutes, have a few minutes break, like work on a problem ... knowing that they just took a break and didn't actually work on a problem. So I basically gave up on that. I just said take a break. (Sam1)

Teachers became aware of variation in strategies in multiple ways: discussing strategies with colleagues, observing what colleagues are doing, reading strategy guides. Some also

participated in workshops or formal teaching development activities, but described a focus only on variation in strategies and did not describe experiencing or reflecting on those strategies from the learner's perspective.

Some teachers learned from multiple sources which afforded both learning new strategies and, as described in chapter 6, learning which related to changing ways of experiencing teaching. For example in the GCHETL course, some teachers appeared to experience relevance structures which focused on the strategy aspects of teaching but not on teaching as a whole.

there are techniques for controlling a classroom which can be used to ensure that everybody's got an equal opportunity to learn ... to control the disruptive elements. To ensure that people don't talk, that they concentrate so as not to disrupt other students. I think that's an important thing that I've learnt to do.

I. Right, so how did you learn that, where did that come from?

Ah, a combination of my experience listening to [a guest workshop leader] I was very impressed by him, I thought he was terrific and talking to my colleagues who went and did the course. We discussed it during some of the seminars we had doing the Grad Cert thing. So it's a combination of all those things (James2)

In the following quote, Andy describes his adoption of a new strategy which he gained from a teaching development workshop. From the facilitator's perspective, the workshop focused on improving student learning in large lectures through encouraging lecturers to see lectures as opportunities for students to develop and change their understandings.

Participants were encouraged to discuss a variety of active and reflective learning strategies in relation to how they might encourage learning in their own lectures. Andy's description of a change he had made in his teaching following the workshop suggested that he had become aware of a strategy, getting students to do problems during a lecture, but not the learning-related intention:

In the first few weeks when I ran it, I ran it like a lecture, a break, a lecture and then a tute at the end and I thought that is not a very good. I didn't like that because a tute at the end they tend to sort of drift away and after a few weeks what I did was just basically just a three hour lecture with a break in the middle and then doing problems as I went along. ... In the 2 1/2 hours or whatever that I was lecturing I probably had 5 problems handed out on a worksheet and then we would stop and do all those problems as I did, met something. That's extra that I got from [the academic development unit]. That's quite a good idea. Some of them like didn't have any idea of about how to do the problem but I didn't think that was important ... just so long as they were thinking about it at the time. I mean I was talking to someone else about this and they said students didn't like that. I don't know. I think that it doesn't really matter if they like it or not. I think it is still the way to go ... reinforcement I suppose or something.

- I. So why did you first decide to do it that way with the lectures and the problems?

That I heard from [the academic development unit]. That is just an idea I had from there. I thought I would try that. It is just something that I could try. Just something I could try

- I. And you kept it going?

I liked it. It was quite good. It gave me a break and it gave them a break as well.

- I. Were there any indicators that you had about how it was working?

Like I said, I mean, not really, no no I don't know. I just got an idea that it's the way to go. It is just from what you people tell me. This is, it reinforces as you go along. Plus it gives them a break and that must be good. You know. (Andy3)

Andy's description does not make it clear why he decided to implement the strategy. He commented on it "reinforcing" but did not elaborate on what this meant for him, only that he was told this by others. He also commented on it giving students and him a break, and this seems connected with him liking the strategy and continuing to use it. He appeared to focus on the strategy in relation to his overall teacher-focused way of experiencing teaching.

To summarise, in this category the focus for the teacher is on changing strategies, with the intention of improving teaching. In situations which afford learning about teaching, teachers experience relevance structures which focus on variation in strategies which relate to the teacher's intention for change. The intention may be directed towards the teacher's control, comfort or efficiency, being seen as innovative or impressive or improving students' behaviour on reactions to teaching. In teachers' descriptions, variation is brought about on teaching strategies simultaneously with the variation in aspects of the teacher's situation that the teacher seeks to change. The focus is on the act of teaching, and the direct object of teaching and students' learning are held invariant.

In these first three ways of experiencing change, the focus for the teacher is either on changing what is taught or how it is taught, and the what and the how are perceived as separate. Change is directed towards improving teaching for the teacher.

Category cC: Experiencing change in teaching as relating teaching more closely to learning

This way of experiencing change in teaching is qualitatively different from the previous two. Variation is brought about on aspects of teaching with the intention of improving students' learning. Either or both the content or teaching strategies may change, but unlike in Categories cA or cB, the effects of changes in teaching on students' learning are in the foreground along with the changes themselves. Awareness of variation is brought about as teachers reflect on the relation between their teaching and their students' learning. When changes are being planned or reflected on, variation is brought about simultaneously in teaching and the teacher's perceptions of student learning.

The difference between this category and Category cB is clearly illustrated by comparing the following description from Sam's third interview with that from Andy, described in the previous category. Both teachers have made changes to their lectures by using the same

strategy, giving students problems to do in lectures, but they have different focuses and describe different dimensions of variation. Unlike Andy, Sam describes the change in terms of improving his students' understanding:

Well this actually was different. This time actually I read some paper on structured lectures, so I set out a group of problems that I would give after a lecture for a short period of time. So I'd discuss the problem, how to solve it, then for about fifteen minutes I'd give it to them. And they could spend say ten minutes actually doing it ... But it was, anything I gave them was always quite difficult for a lot, number of people in the subject. And maybe this is the effort associated with actually thinking in the class. A lot of people simply just drop out in a sense that they wouldn't do anything. So preparation really is coming up with problems and that was it.

- I. So what were your intentions in giving them those problems?

To get them to do something so they wouldn't just, to do something so if I lectured on something then they could understand it by trying to do the problem, because it's a different thing between thinking you're understanding it and actually understanding it. And, I'm mature enough, most lecturers are mature enough to know the difference.

- I. What is the difference in your subject?

In my subject, the difference would be in looking at a formula and saying, "Oh, I know, I see this formula thus I know what it does". ... or knowing what the implications are in terms of how to use it, under what circumstances do you use it ... and how it links to other, to other sections of the subject. ... Lots of students seem to approach each separate lecture as a complete separate entity and each section of the lecture is a separate entity. ...

- I. So when you said you were hoping that they would understand it as opposed to just thinking they understood, what sort of understanding were you looking for?

Incorporating it into their view of the subject. Not necessarily the wider world but, I mean, the more you look at a subject as a whole, you know, you then form links between all the different aspects of it, so that's what I was looking for. To form not

just one link but more than one link, you know, cause as it is people just go in and don't form many links at all.

I. How do you know whether it's working or not?

I know if it's working or not, quite usually from students' feedback. This semester ... there's only about thirty students in the class. ... There's individual attention with that, particularly when they're doing the problems, they can call me over, ask me questions about it. And I find myself, every time a question is asked I usually sit there and think about it for about ten seconds because I've learnt, I've realised that the question they're asking, the question which is phrased, is not necessarily the question being asked. So trying to differentiate between the two is actually the most difficult thing because quite often, quite, the way the question is phrased suggests that they're actually ignorant of something else. Which is the reason they're phrasing the question incorrectly, which is why I have to think about it for a few seconds. And that's what I am actually getting out of that structure there. This feedback, particular during the problems, because then they call me over. (Sam3)

Whereas Andy was not sure how the strategy was working but thought the break aspect was good, Sam knew whether it was working or not by the feedback he gained on students' understanding from the kinds of questions they asked. The new strategy both encourages students to develop understanding and enables Sam to learn about his students' learning. Sam's description suggests simultaneous awareness of variation in his teaching strategy and in his knowledge of students' understanding.

Other teachers gave descriptions which suggested simultaneous awareness of variation in content selection or organisation and intentions for students' learning. For example, Chris planned to change the selection and focus of his content, with an intention concerned with students actually understanding, working out themes and making links, rather than being confused. His description contrasts with category cA1 where the intention of changing content selection focused on teacher interest with student interest assumed.

I think initially ... I was probably doing far too much and in a sense requiring too much and what I'd like to do in future semesters ... is to work out ways in which you

can have introductory sessions that give a general overview but then actually just pin point specific topics or areas and just work on those. ... so that the students will then look at that and, from specific things, work out broader themes and ideas and link in things with other periods rather than try to cover [all the historical periods]. Even to the point, in a lecture or a workshop or seminar, of concentrating on one thing, like one book.

- I. Why do you see that as being better? It seems that you do?

I think in terms of the requirements of actually understanding. I'm more and more seeing people ... come in completely confused for a two hour seminar or workshop ... I really do think it's probably better, the way that I'm thinking about it at the moment. ... I think you've got more of a chance of actually sort of getting some meaningful teaching going, and learning, than trying to get through a huge reading list. (Chris2)

Another teacher, Kelly, brought about variation on content organisation and representation simultaneously with student learning. She described variation between the way in which a colleague organised and presented the content of lectures in a subject, and how she would prefer to do it and intended to do it when she had control over part of the subject:

I'm really trying to push for a lot more of the work to be very applied and less theoretical, and if anything the theory should come in after we do all about the applied work. But I mean I'm dealing with [a senior colleague] and ... what he says goes. ... except he's going away in January so I'll do the last bit and I'm going to try a few things and he said that's okay. We'll just see how they go.

- I. Why do you think it will be good if it could be more applied, a bit more applied?

... a lot of people maybe the way they learn is learning by rote and if they don't understand the terminology they're not prepared to put the time into it. So by making it more applied, it captures their attention and hopefully it'll make them think more about their theory and how things work. Oh, you know, say for example if you - we're covering a topic called "[x]" ... every time I keep suggesting to [the senior colleague] we take a different approach. But he always wants to start off with all these pricing models and people don't quite understand what it's related to. So I think we should just go right away and say this is the [financial] market, if I want to buy a

[x] I pay this price and I make this profit and then go back and say well I work out the prices based on these things. So in other words, turning the lecture around the other way and doing it that way. So they really understand what links to the different concepts. ...

- I. When you said you'd like them to understand what happens. What does "understanding" mean in the context of that subject?

to be comfortable with the [markets] to be comfortable with them and to know how they, operate. I mean often you hear people say "well I did this subject but I, I didn't really get anything out of it. I sort of got an idea." but still they don't understand. ... They might know a basic definition but don't really understand. In other words they're not interested. And so hopefully by me saying "understand" I mean if they can understand, they're going to be interested in what they are doing. (Kelly3)

Kelly's description suggests simultaneous variation between the ordering of theory and application in the subject content and variation between rote learning or knowing a basic definition and students' understanding, described in terms of linking to concepts and being comfortable with the subject. She also describes variation in students' interest, but sees interest varying with understanding rather than necessarily preceding it. Her description contrasts with that of Shane (category cA2) in which variation was brought about on content organisation, relevance and student interest but not on student understanding.

Change which relates to this category may also be described in terms of the teacher having a greater consciousness of aspects of teaching which they see as relating to learning.

Variation in aspects of teaching may be suggested implicitly rather than described explicitly, as in the following description where Sarah relates implicit variation in the kinds of questions she asks to variation in her awareness of how students are thinking and understanding:

I think I am a lot more conscious of picking up at an early stage where they have some gross misunderstandings and taking remedial action to sort that out by being conscious in my own mind to think "This is a difficult concept. I will know, I will have a better feel for whether they actually understand, if I ask these sort of questions" ... rather than thinking "oh well, we have done that last week, you know". ... I really try

very hard to make sure they understand it by testing the way that they are thinking, by asking them questions that can sometimes catch them out or at least you know if they answer it in a certain way that they haven't got the point at all. So I am conscious about testing if you like, that they do understand. (Sarah 3)

For teachers who co-ordinate subjects, change in teaching includes changes in the learning environment, including subject design or assessment. Changes are evaluated in relation to whether they achieve desired changes in students' learning rather than or in addition to students' reactions. Student liking or interest is not seen as the same as student learning, although they may be related. Unlike in category cB, teachers will keep and refine new learning-related strategies if they improve learning, even if student reactions are initially not positive:

The first assignment we've kept. ... Initially it was an essay ... and then in the second half of the year we modified it to form to sort of ten mini essays along the line of a concept map. They had to identify certain relationships and then write a little bit about each one so it was very much a written assignment and the students were quite offended that we would give them a written assignment ... but nevertheless it worked very well so we want to keep that and refine that a little bit.

I. When you say it worked very well, what was it intended to do?

The main intention of it was to try and get them to understand the relationship between the different concepts in the subject. One of the problems that we've always had ... has been the students learn the mechanics of how to do the subject ... although they develop the skills, they didn't really understand the implications of it and why you would bother and have a real deep understanding of why you need to do that ... It's basically to put it all into context and that seemed to work quite well.

(Matthew2)

Unlike in categories cA2 or cB, change in teaching in this category is potentially endless rather than ending when the teacher feels comfortable, achieves good student reactions or solves a teaching problem. Teachers express a desire to improve things or make them

better for students' learning, even when students are already giving positive feedback and achieving desired learning goals:

I could start to trial and practice some of the things that I'd got from the grad certificate, and that my motivation for it was to see if I could make some things that were working OK perhaps a little bit better ... I think I've changed from last year in that much, that I feel much more confident in being able to go back and look through some of those things and put into practice a lot of the ideas. ... They're getting a good program and most of the feedback has been very positive. ... They've got an environment to learn that they have some flexibility and control over. ... most of them are getting the flavour of my aims and objectives. ... Like "I know how to understand [subject] stuff now". ... It's not "I can take this [detailed] theory out and use it straight away", it's "I have some confidence. I can now go on and find out more about that." So ... I guess there's the really nice intended outcome is the lifelong learner. (Nick3)

Change in this category comes about through a series of acts in a range of situations.

Teachers become aware of variation in students' learning through monitoring what students say in class, discussion with students, student feedback on their learning or student assessment results. Some descriptions relate to the critical experiences of experiencing teaching from the students' perspectives and experiencing different students. Teachers become explicitly aware of variation in aspects of teaching largely through the same acts that were described in category cB: talking with or observing colleagues, participating in workshops and formal teaching development courses, reading, getting an idea and trying it out and so on. The critical difference is that in this category, the act of changing teaching is focused towards improving learning. In the same situations of learning or application, teachers who are focused on relating teaching to learning experience different relevance structures and focus on different aspects of the situation. They think about or reflect on what they learn or seek to apply in relation to their students' learning, not only in relation to their own comfort, confidence or interest or their students' reactions. For example, in teaching development workshops they are more likely to describe the experience of being a learner/observer, relating what they are experiencing to their own learning and/or their students' learning. Some, but not all, of the teachers who described change in this way

described the orientations of putting teaching into focus and reflecting in ways informed by formal learning.

While teachers describe the adoption of new approaches which they perceive relate better to learning, in this category, unlike the next, the teacher's overall way of experiencing teaching is in the background. Teachers describe new ideas about teaching as confirming their own, perhaps tacit, perceptions about teaching in relation to learning.

I did attend a one day seminar on problem based learning ... That was really excellent and that seemed to confirm a lot of ideas I'd already had

...

because I've had this real sense, the students get so much out of the fuzzy-edge stuff that they've had to solve. It draws a lot more out of them. And if they can identify with the problem and they want to solve it they learn a lot more. (Julianne2)

In summary, in this category the focus of change is on relating teaching to learning. The critical differences between this category and the previous ones are that the teacher focuses simultaneously on variation in aspects of teaching and variation in students' learning, and has the intention of improving learning. Changes are evaluated in relation to students' learning and understanding instead of or in addition to students' reactions. Relevance structures for change occur in situations where the teacher becomes aware that their intentions for student learning are not being realised as well as they might like, or become aware of alternative ways of teaching which may improve learning. Teachers also describe becoming more conscious of their own ideas and developing a better understanding of how they can help students learn. Change is potentially endless.

As will be described further in chapter 8, the focus on confirming rather than changing existing ways of experiencing teaching meant that some teachers who saw themselves as relating teaching more closely to learning were more teacher focused than student focused. These teachers typically related their teaching to limited ways of experiencing student learning.

Category cD: Change in teaching as coming to experience teaching in a more student-focused way through improving understanding of teaching and students' learning

In this category, teachers describe themselves as changing the way they think about their teaching and as shifting their focus away from themselves and their teaching and more towards their students' learning. The teachers' descriptions suggest discernment of variation in ways in which teaching can be experienced, and a related change towards being more student-focused. The meaning of teaching and the teachers' underlying assumptions are foregrounded and opened for variation whereas in previous ways of experiencing they were in the background and taken for granted. Unlike in category cC, where teachers' described confirming, extending or refining their existing ideas about teaching and developing better ways of implementing them, in this category the descriptions related to differences in ways of experiencing teaching as a whole. In the vignettes in chapter 6, Neil described a change from presenting lectures to helping students to construct their own knowledge and Ellen explicitly described herself as changing her way of experiencing teaching from telling or spoon feeding to facilitating. Other teachers' descriptions often contrasted past and present ways of experiencing teaching:

At the beginning ... I tended to, when we had these discussions, get up and deliver information ... I mean I really spoon fed them ... because that's what I wanted them to know and I thought if I told them then they'd know it. Now ... I like to see my role more as a facilitator and mentor. ... I like to try and assume, well they've done at least a bit of the reading, even if they haven't done it all, and perhaps see my role more ... as a guide I suppose. ... often it's confirming that they're on the right track, rather than anything else. Perhaps confidence boosting. (Linda1)

Variation is brought about on the teacher's focus in teaching, with a contrast between focusing on the teacher or teaching and focusing on the students and learning. For example Sarah describes her focus as changing from thinking about what she does to focusing on what she hopes her students will learn and how she can bring this learning about:

When I started teaching and there is all just this big mine field and you are struggling just to get through the classes and not thinking in philosophical terms as much as “what am I going to do with the students today and, what subject am I teaching today”. I'm a lot more focused on “what am hoping they are going to learn today”. And, I focus on that a lot more and "how can I and what are ways I can get them to learn and what are ways that I know that they have learnt". And, I am getting a lot more into that focus rather than. It's partly to do with more familiarity with the course and generally a greater level of confidence and experience. I am much more focused on those things which are obviously more important than more self-centred thinking "What am I going to do? How am I going to stand up in front of my students today?" (Sarah2)

Sarah described this shift in focus as coming about partly through experience, partly through engaging in formal learning about areas which should be focused on and strategies for checking students' learning and partly through reflecting on students' learning. Her descriptions related to the orienting themes described in chapter 6: putting teaching into focus; initially struggling with teaching, which suggests some discomfort; and reflective thinking being informed by formal learning.

I And what do you think has caused the shift in focus you mentioned a couple..

Well partly experience and confidence but, partly being in the course and being able to know what are those areas that you should be looking at and, being aware of some of those strategies that you can use for checking on the students learning. Thinking about what they're learning and how they're learning it. (Sarah2)

For Nick, the change in focus was from focusing on covering the content to focusing on getting in touch with and learning from the students:

I'm much more relaxed now. I have an attitude about teaching now, well certainly this semester, that is less concerned about the content and the way I'm scribbling notes on the board and more about getting in touch with the students ... I found that before if I was heavily hung up on covering content in the class, then that's about, then I felt that's all I was really doing. I was just paging through all the notes. (Nick2)

Nick described this shift as coming about primarily through listening to the students and seeing things from their perspectives but also through reflective thinking, informed by formal learning which he was beginning to be able to use differently:

I suppose again it probably comes back to that you know the reflective part, being able to sit down and think or to try, and trying to put it into a nice neat package isn't the answer. I suppose now I'm continually learning from the students and I don't think I was doing that even half way through this year. I suppose I was listening to what they were saying, but I think now I'm starting to realise the effect or the impact that I might be having on them in a particular circumstance. ... I'm still daily finding pieces of paper that I was given months ago or years ago or whatever and saying "wow, what a great resource. Why is it that I haven't used this up until now?"

...

The students come up with me with this particular problem that's not one that I've thought of before. And then we work through it together and often a student will come up with an alternative way of thinking, ... and that becomes just another dimension. ... I think I've learned more about that guiding from them as well. It's not just the technical [subject matter] part. It's also about the being the teacher part.

(Nick2)

Lacking confidence is not described specifically as a driver for seeking to change but, as Sarah and Nick's quotes illustrate, feeling more confident and relaxed about teaching are consistently described as related to or as an outcome of the change. Angela felt that feeling at ease and feeling more confident related to focusing on enabling students to learn and reducing her focus on herself as well as getting to know her students. For her, the change in focus came about through a complex pattern of experience: tuning into her students through experience with them; using formal theories to interpret what was happening for learners and being able to look at or reflect on her teaching; picking up strategies through being a learner/observer in a formal course.

I think I'll always be sort of someone who'd rather be behind a wall, but it has got a lot easier in that regard ... I think that the experience of the Graduate Certificate where the emphasis or the focus being very much on enabling people to learn rather than having to feel that you have to teach them has really made a huge difference to

me in that sort of whole process of confidence ... and also along with that strategies that I've picked up very much through the example of teaching and learning at [the academic development unit].

...

The whole thing of the surface and deep learning, conceptions of learning and approaches to learning, I mean without that framework it is all just a bit muddled. You can't sort out what's going on ... I mean being able to look at your teaching ... knowing there's the other strategies and ways of delivering and enabling learning to occur ... just kind of knowing all that enables you to get some sort of perspective on what's happening and what you are doing and what those people sitting in those chairs might be doing ... I'm not sure whether that is a cause of specifically a change in my teaching or how I teach but it is certainly a big change in my understanding of what's going on, so indirectly I think does influence the actual teaching practice. (Angela2)

Angela's description also suggests that her changed focus and understanding of what was happening allowed her to interpret what was happening in her teaching and influenced her teaching practice.

Teachers' descriptions related to this category included aspects of changes described in the other categories. For example Angela's change in focus included understanding how to relate her teaching to learning and learning new strategies. Sam also described how, along with adopting a student focus, he changed his overall subject and lectures in ways which relate more closely to giving students a chance to learn (category cC). He was also conscious of not making things inconvenient for himself, but unlike in category cB, convenience is balanced with a focus on students' learning.

... arranging the subjects actually that give them the chance to learn something. ... And actually try and focus on the questions ... what is the underlying thing that they're missing. ... you know, just have this sort of student focus. But what I try not to do is do something that then makes it inconvenient for me ... [and] has absolutely no bearing on how much the students learn. (Sam3)

The relevance structures that teachers experience in situations of change related to this category seem most related to teachers' putting teaching into focus and reflective thinking

informed by formal learning (as described in chapter 6). These were related to a common desire to understand teaching and learning, the relations between them, and the meaning of teaching for the teacher. As was the case with confidence, teachers commonly described increased understanding of teaching as relating to becoming more student focused or as an outcome of the same experiences as those which related to becoming more student focused. For example, Sam described a formal course in teaching and learning as influencing his change towards a student focus and enabling him to look at and understand his teaching:

it's really allowed me to look at teaching the same way I do my research which is view it as a research problem. Always identify what you're trying to do. And try and actually provide a way for you to determine whether you've achieved the objectives. ... try not to fool myself that I think I know something if I don't, and just understand the problem as well as possible. So the same thing goes with teaching. Understand the problem.

...

- I. So what's an example of solving the right problem?

Well I think anything type things you learn in Ramsden, which is focus on the student not on the sort of the content, or what, another lecturer would view as being a good content. (Sam3)

In summary, in this category change in teaching means change in the teacher's way of experiencing teaching, with the direction of change being from teacher-focused to student-focused. This change in awareness comes about through teachers trying to understand teaching and learning. The ways in which teachers describe change as happening and the influences on change are related to most of the themes in critical experiences and orientations described in chapter 6: becoming aware of the students' perspectives, being a learner observer, focusing on teaching and reflective thinking about teaching informed by formal learning. Change in the teacher's focus on teaching is evaluated in terms of the teacher's increased understanding and growing confidence about teaching. Teachers describe themselves as having a better understanding of what it happening in teaching,

feeling more confident, having different perspectives, focusing more on student learning and, for some, feeling more professional as teachers.

Relations between categories: Dimensions of variation and relevance structures related to ways of experiencing change in teaching

At the beginning of this chapter, I described the overall pattern of relations between the categories. Category cD is the most inclusive, as teachers who are aware of change as changing their way of experiencing are also aware of relating teaching to learning, and changing strategies and content in ways related to learning. The overall focus for teachers is on both their own learning and their students' learning. Category cC includes both of the less complex categories, but with a focus on improving student learning rather than on improving aspects of teaching for the teacher.

Each category can also be described in terms of a particular set of dimensions on which variation is brought about, and a particular experienced relevance structure. Individual teachers focused on variation in several different aspects of teaching when they described changes in teaching, with some focusing on very limited aspects of teaching and taking other aspects for granted. These different patterns of experienced variation corresponded to different intentions for learning and change which related to teachers perceiving different relevance structures, even in the same situations of learning or applying learning. Table 7.2 shows these differences.

The same teacher could focus on different dimensions in relation to different situations of learning or application. What was also evident was that the same acts, such as reflection or talking with students, could be focused towards different intended objects, even in the same situations such as academic development workshops or a formal course in learning and teaching.

Table 7.2 Variation and relevance structures related to different ways of experiencing change in teaching

Change in teaching experienced as change in:	Variation brought about on:	Relevance structure of the learning or application situation experienced in relation to:
Content selection	The teacher's selection of and level of interest in the content	A teaching-focused intention to increase interest and avoid boredom
Content organisation and representation	The teacher's understanding of the content or the representation of their understanding in teaching	A teaching-focused intention to organise and represent the content in the best way for teaching
Strategies	The teacher's teaching strategies and students' reactions to them	A teaching-focused intention to improve teaching activities eg to gain control in teaching environment or improve students' reactions, behaviour or motivation
Relating teaching to learning	Students' understandings and/or engagement in learning, in relation to content and/or teaching and learning strategies	A student-learning focused intention to improve students' learning
Experiencing teaching in a more student-focused way	Ways of experiencing teaching – as more or less teacher-focused or student-focused	A student-learning and teacher-understanding focused intention to understand teaching and learning

Reflection on aspects of teaching is common to categories cB, cC, and cD but the focus of the reflection in each case is different and variation is brought about in different aspects.

Teachers describe themselves as reflecting on: strategies which will help them to manage the class (cB); the effects of teaching on student learning (cC); or the teacher's understanding of teaching and the nature of teaching as more or less student focused (cD). Similarly, the nature of the affect described in relation to the change does not vary between cB, cC and cD, but its focus differs. Teachers describe becoming more confident about their teaching strategies (cB), the likelihood of their students learning in desirable ways (cC) and their overall feeling about and understanding of teaching and capability of interpreting what is happening in teaching (cD).

Chapter summary

In summary, this chapter described the variation in ways in which teachers experience change in teaching. Each way of experiencing change relates to teachers perceiving a different relevance structure in situations which afford learning and change in teaching. Each way of experiencing change also corresponds to different aspects of teaching being in the foreground of awareness and open for variation. Some ways of experiencing change afford change only in some aspects of the overall meaning and structure of teaching. Focusing only on changing content relates to focusing on the direct object of teacher-focused ways of experiencing teaching, while focusing on changing strategies relates only to the act of teaching.

For teachers to change their ways of experiencing teaching, they need to focus on the meaning and structure of teaching as a whole. Only the most complex category affords this focus. The next chapter concludes the interpretation of why some teachers change their ways of experiencing and others don't, by bringing together the patterns of connection between teachers' ways of experiencing change in their teaching, the change-related themes

and orientations that they describe, and whether their ways of experiencing teaching remain teacher focused or become or continue to be student focused.

Chapter 8

Patterns relating teachers' ways of experiencing change in teaching to their ways of experiencing teaching over time

This chapter focuses further on why some teachers' ways of experiencing teaching become student focused and other teachers remain teacher-focused, by relating changes in ways of experiencing teaching to ways of experiencing change in teaching and patterns of critical experiences and orientations. It uses vignettes of two individual teachers to illustrate typical differences between teachers who became student focused and those who remained teacher focused.

Teachers who became student-focused experienced change in teaching as changing their way of experiencing teaching, focusing on understanding the meaning of teaching and how it related to learning. When they encountered situations which afforded learning about teaching, they were oriented towards them in ways such that they perceived relevance structures and discerned dimensions of variation related to critical aspects of student-focused ways of experiencing. By contrast, teachers who remained teacher-focused focused on changing their teaching strategies or content for teacher-focused reasons. Even in the same situations for learning about teaching, they experienced different relevance structures and focused on variation in different dimensions.

There was a clear connection between the most complex way in which teachers described their experience of change in teaching and the most complex way in which they described their experience of teaching (Table 8.1). There was also an inter-related connection between teachers' experiences of change in teaching and whether their ways of

experiencing teaching remained teacher-focused or became or continued to be student-focused (Table 8.2).

Table 8.1 Relation between individual teachers' most complex ways of experiencing teaching and ways of experiencing change in teaching, in the interview in which they described the most complex way of experiencing change.

	Way of experiencing change in teaching		
	Changing content and/or teaching strategies	Relating teaching more effectively to learning	Experiencing teaching in a more student-focused way
Teaching experienced as	Changing content and/or teaching strategies	Relating teaching more effectively to learning	Experiencing teaching in a more student-focused way
A or B Transmitting or organising and explaining	Andy Shane		
C Teacher-focused interaction and student activities	James ¹ Lee Paula	James ¹ Kelly ² Peter Ramesh	
D Relating teaching to learning		Frank Julianne	Kelly ² Neil Sam Tim Ellen Eric Barbara Linda
E or F Guiding learning or challenging		Lorraine Matthew Sophie	Lissie Chris Nick Angela Kate Ray Sarah

- ¹ James described different patterns in relation to his first year teaching where he focused on changing strategies, and his third year teaching which included aspects of relating teaching to learning
- ² Kelly described two different patterns, one relating to her previous learning experiences (interview 1) and one to her current experiences (interviews 2 and 3)

Table 8.2 Patterns of connection between change in ways of experiencing teaching and ways of experiencing change in teaching

	Way of experiencing change in teaching		
	Changing content and/or teaching strategies	Relating teaching more effectively to learning	Experiencing teaching in a more student-focused way
Change in way of experiencing teaching ↓			
Remained predominantly teacher-focused	Pattern 1 Andy Shane Lee Paula James	Pattern 2 James Ramesh Peter	
Changed to become predominantly student-focused		Frank Julianne Lorraine Pattern 3	Kelly Neil Sam Tim Ellen Lissie Angela Pattern 4
Continued to be student-focused (including those who changed between student-focused categories)		Matthew Sophie	Eric Barbara Linda Chris

			Nick
			Kate
			Ray
			Sarah

These connections made four distinct patterns as shown in Figure 8.2:

- Pattern 1: A teacher-focused way of experiencing teaching with teaching-focused ways of experiencing change in teaching
- Pattern 2: A teacher-focused/student activity way of experiencing teaching with aspects of student-learning and teacher-learning focused ways of experiencing change in teaching
- Pattern 3: A student-focused way of experiencing teaching with a student-learning focused way of experiencing change in teaching
- Pattern 4: A student-focused way of experiencing teaching with a student-learning and teacher-understanding focused way of experiencing change in teaching

Within these overall patterns, there are more subtle differences related to teachers' particular ways of experiencing teaching as shown in table 8.1, and to some extent to variation in levels of experience of the teachers whose descriptions fitted within each pattern. In the next section, I will focus on describing these patterns, with emphasis given to the contrast between patterns 1, the least complex and 4, the most complex.

Pattern 1: A teacher-focused way of experiencing teaching with teaching-focused ways of experiencing change in teaching

This pattern was evident in the descriptions of teachers who remained predominantly teacher-focused. These teachers focused on change in the selection or organisation and

representation of the content (cA1 and cA2), or change in their teaching strategies (cB) and brought about variation in the related dimensions. In situations which afforded learning about teaching, they perceived relevance structures related to teacher-focused perspectives on what could be taught or strategies for teaching it. They described desires to improve their teaching, but these intentions were described in terms of their own comfort, efficiency or interest or their students' motivation or reactions and variation was discerned in these dimensions. Three of the teachers whose descriptions related to this pattern, Andy, James and Shane, were inexperienced teachers whereas Paula and Lee were experienced.

Teachers whose descriptions related to this pattern expressed initial dissatisfaction with aspects of their teaching or their teaching situation. Over the course of the three interviews, some focuses of dissatisfaction diminished. Andy and James expressed initial dissatisfaction with their teaching strategies or their effectiveness in using them and Shane was initially dissatisfied with his lecture notes. Each progressively became more comfortable with these aspects. Other focuses of dissatisfaction remained invariant. For example, teachers remained dissatisfied with students who showed instrumental attitudes towards learning or who apparently lacked motivation and interest. Dissatisfaction was not expressed in relation to teaching as a whole and the other orientations and critical experiences related to change in teaching did not appear in these teachers' descriptions. Student learning was not in focus in their descriptions of change, and their ways of experiencing teaching remained taken for granted.

Although Lee and James completed the same formal course (GCHETL) as most teachers who became student-focused, and Paula completed some of the course, their descriptions of what they learned were predominantly teacher-focused. This was largely consistent with the focus of their intentions for doing the course. Lee focused on learning new teaching methods but even at the beginning of the course he was uncertain about whether they would be useful:

I think there should be some new method anyway, that I would like to learn, but I don't know whether actually this method can be used in my field or not ... Also, as I

mentioned before, it all depends on the resource and timing to change all the things.
(Lee1)

In a later interview (and in informal conversations) it became evident that Lee had mainly undertaken the course to gain a qualification which he saw as assisting him in promotion. His teaching focused strongly on getting students to apply theory to practice, and drew strongly on his current experiences as an applied researcher and consultant to industry. He gained good student ratings but perceived the need to introduce innovative strategies and to place more emphasis on important concepts. By his second interview he had tried having more class discussion of key concepts and less focus on calculating answers to problems related to these concepts or covering as many minor topics. However, students complained that this did not prepare them for answering calculation-based exam questions (which had not changed) and exam results on average were poorer than they had been previously. He was concerned by this, but did not seem to question why the students saw the exam as unrelated to the class discussions, when from his perspective they were clearly related. His planned response was consistent with his teacher-focused student activity way of experiencing teaching. He planned to give students an assignment or project so that they could apply the concepts in preparation for the exam. By his third interview he had largely returned to his previous methods and had little desire to focus further on changing his teaching:

Ah (very long pause). I this most important, OK, whether you have the intention to make the change or not because you have so many things to do. And I suppose, OK, yeah, I still more interest to do the research in my field. ... you can get more outcome compared to the teaching. And because you have so many things to do you will put the research first ... So you come to the first thing, your intention. (Lee3)

Paula, whose descriptions included some dissonant student-focused aspects, described intentions for her own learning which seemed to have the potential for opening the dimension of ways of experiencing teaching, but also focused on efficiency or deciding on teaching and research priorities:

I suppose how I see academic work, that we are supposed to be really well read and really be able to make connections between different readings. ... That is not really very efficient as far as my time goes but also it may be not having right emphasis as far as what the students learn goes ... and so why I am doing the [GCHETL] course is to feel that I have more control over the process so that I feel clearer about what I am trying to do and so that the whole process is not so stressful.

...

I really do want to think out my ideas about teaching and some ideas for prioritising it and doing it either more efficiently or you know making some decision about research and priority. (Paula1)

By her second interview, Paula was unhappily teaching an unfamiliar subject and feeling less efficient and prepared than previously. By her third interview, she remained concerned about her teaching but focused more strongly on own interests in the discipline and how this related to her research. Both Lee and Paula perceived teaching and research as activities which competed for their time.

James, a relatively inexperienced teacher, seemed initially concerned with class management (as described in chapter 7) and then with entertaining, motivating and even impressing his students with his knowledge and use of new technologies. Like Paula, James had espoused intentions for students' learning which were dissonant with this primary focus and with his teacher-focused acts and direct objects of teaching. He also gave some descriptions consistent with pattern 2.

Andy and Shane, both relatively inexperienced, did not participate in a formal course on university teaching, but did come to an initial orientation session. Shane's primary focuses for change, as described in chapter 7, were firstly on getting his lecture materials organised for teaching and in later interviews on making teaching and teaching administration more efficient and appearing to be innovative. Like Paula, he sought to become more efficient at teaching so that he could spend more time on research. Andy appeared to be the most teacher-focused of all the teachers in the study, in both his way of experiencing teaching and

the focus of the changes he made, so I have chosen him for a vignette to illustrate this pattern as it appears in the case of an inexperienced teacher.

Vignette 8.1: Andy – change within teacher-focused ways of experiencing

Andy was a relatively young male lecturer in the Physical sciences. At the time of the first interview, he was beginning the second year of his first full-time teaching appointment. Most of his teaching was in first-year “service” subjects which were taught to students who are not majoring in his discipline.

Interview 1

In the first interview, Andy’s descriptions of his teaching in his first-year lecture exemplified a way of experiencing teaching as transmitting information (category A):

Teaching, what’s teaching. (pause) I don’t know. I don’t know. Teaching. It’s transmitting knowledge. It’s letting someone else know. I mean, I suppose we all know what teaching is now. So anything I say is going to be a tautology almost. It’s like, it is, it’s just sort of (pause) That’s all I can think of.

Teaching had a taken for granted quality in his response – “we all know what teaching is”. As described in chapter 5, his acts of teaching were telling and writing what had been told on the board. The direct object of teaching was the content of his subject - concepts and equations, facts and problems – as represented in his notes. The indirect object of teaching focused on students having been told, and therefore having “what they need to know”. Having what they need to know meant that student had it in the form of written notes because they were examined on it.

There was little evidence of Andy feeling dissatisfied or frustrated with aspects of his teaching, even when students didn’t understand.

I don't know if I ever get frustrated, even with the engineers with their talking. I mean, I was like that. ... I mean it doesn't stop me trying to keep them quiet. But I don't know that I get frustrated. Even you know, even when students don't understand things, that's all right, I mean, that's the way things go.

Changes that Andy had made in teaching the subject were focused on the length of his notes so that he would be able to write all the notes on the board in the time available (category cA2):

I mean at the moment, I've taken that course three times, and each time I've rewritten the notes.

...

I just haven't got the time to write everything on the board so I tend just to keep it in note form now and maybe keep my explanations down and ... just write sort of a summary on the board.

The main influence on his teaching that Andy explicitly described was the way he was taught as a student:

(long pause) ... I don't know why I teach the way I teach. I just, just do what everyone else ... When I was an undergraduate I was taught by like lots of different teachers and ... I just sort of like pick out the one that I enjoyed and then do the same. And I mean that's one of the reasons I tend to write on the board as well, that's what I enjoyed. Because at least I had the lecture afterwards. At least I knew what I had to know.

I mean no one's ever said to me teach this in a particular way. I teach the way I want to teach actually.

Although Andy seemed aware of variation in the teaching strategies of his undergraduate lecturers, he believed that he taught as everyone else in his department did, which was the way he wanted to. An attempt to change his teaching strategy was abandoned as it conflicted with his intention to make sure students had the notes:

... once I gave a lecture just with overheads, and without writing anything on the board, and what I saw was the students, it was in a small class, I saw them not writing down anything. So I gave that up.

Andy's first interview was punctuated with many long pauses. At the end, when asked for his personal definitions of teaching and learning, his responses were tentative and interspersed with expressions about not knowing.

When you ask me next time I'll think about it now. It's very, yeah, I mean both of them, teaching and learning, I'll have to think about it. I'm sorry.

Andy's first interview descriptions were interpreted as indicating a way of experiencing teaching consistent with category A, transmitting information, and awareness of ways of experiencing change in teaching consistent with categories cA2 and cB, changing his content organisation and teaching strategies. He did not describe any of the critical experiences or orientations described by those who changed their ways of experiencing teaching.

Interview 2

By the second interview, Andy was still teaching first year service subject. As in his first interview, he described his responsibility as telling students what they have to know and trying to make it interesting:

I was saying that when we talked about this the first time round, ... at least let them know what they have to know ... if you don't tell them what they have to know, they're not going to know. ...And then there's all the see, my trying to make it exciting or interesting

He described his teaching in lectures in a way which suggested an awareness of the act aspect of teaching as explaining (category B) but still with a strong focus on transmitting information so that students will know it (A).

I just don't write on the board, I sort of, before or after, I sort of explain. The writing on the board is just what they have to take away. At a minimum. Even if they don't listen to me, which I'm sure a lot of them don't.

As in his first interview, he prepared for teaching by writing his notes, but he also tried to make sure that he understood and could explain the material. He considered the possibility that students might ask questions, even though this rarely happened:

I think I know when I'm prepared, if I feel I can explain it, so, you know, I think that's, you know, I know if I understand something. ... And, I guess it's not just understanding, it's being able to express it as well, like being able to sort of imagine any questions they might ask and being able to answer them.

- I. Why is it important to imagine the questions?

(pause) I think that's how you, well that's how you test your own understanding ... Plus you don't want to be embarrassed I guess when you get in there if they ask. That doesn't happen very often. ... They tend not to ask too many questions in the lectures.

Andy described what he hoped students would get out of his subject as a basic understanding which would prepare them for later subjects in the course. The subject material was still taken for granted, but there was more connection between its parts (B) and he tried to give students examples of where it would be relevant later on:

- I. Do you see teaching physics as being different from teaching, say physics to engineers?

Well, I (pause), no well, not really. Not at a junior physics level. Because it's just like basic physics. ... if I'm teaching engineers, I always try and make it relevant to what they'll do. So when I talk about [a topic], I sort of say, you need this later on for [an application].

Changes in teaching included now having the big picture of the content of a subject (cA2) which Andy did not have when he first taught it:

See the [subject name] course for example, is a course I've taken a few times now. So when I started out, ... I was developing the notes as I went along, so I didn't have the big picture on the whole thing. Whereas now I do.

However, changes mainly focused on his teaching strategies (cB). As illustrated in chapter 7, Andy particularly sought to develop the ability to talk at an appropriate pace while using an overhead projector rather than writing on the board. He returned to this issue several times during the interview:

I'm just having a lot of trouble working in an overhead, that's one of the things I did in the [subject] course. In the first half of it I tried overheads again. I found myself going too quickly and missing out things that I should have said, and so what it is, the last half was just on the board again.

Andy's teaching seemed influenced by a combination of how he liked to be taught and student preferences for having handouts. He was dissatisfied with his present strategy, but felt that this had to continue until he became better at talking off his notes:

I still tend to work the way I liked to be taught. I think that's still a main influence.

in a way I'm not really happy with writing on the board and handing out my notes. It seems a bit stupid in a way but otherwise I just go too fast and something has to slow me down. So until I get better, if I get better, at doing talking, just talking off my notes, then I'll have to do it that way I think.

Andy was also dissatisfied with the way students were performing in examinations but was uncertain whether to blame himself or the students, and was not sure whether it was part of his job to address students' attitudes:

Whose fault is it that these students get 5 out of 20 for a question? They don't obviously just don't understand anything. ... So I mean, is it my fault or is it their fault.

... as you're marking these things and everyone's failing you don't feel very good about it. Terrible. ... Does anyone at any stage ever say to these students, you're not in high school any more. You know, now it's up to you. ... It might be like my job I suppose, but I don't feel like it should be. ... Basically student attitude is a thing that I worry most about, a lot about.

Andy's second interview suggested that his awareness of teaching had expanded to include some of the critical aspects of category B. He explained material as well as telling students about it and there were references to the structure and sequencing of the material and to having the big picture. Changes in his teaching were described in terms of changing his understanding and ability to give students the big picture (cA2) and changing his teaching strategies with the aim of reducing his discomfort and gaining control over student talking (cC). He did not describe any of the critical experiences for change. He was dissatisfied only with his teaching strategies and with his students' attitudes and sought to change the former.

Interview 3

By the third interview, Andy was no longer teaching the first year subject he had described previously. His third-year class was much smaller and he described the subject as more practical and less theoretical. He appeared to have achieved a balance between using overheads and the board, with variation in strategies relating to variation in his perceptions of the difficulty of the material:

This is about the third time I have done it. It is getting easier all the time. I have written up all my notes so the students actually go and get their notes from down at the co-op or wherever and all I did was prepare some overheads and just sort of arranged for it like that.

- I. So the students get all the notes that you have. So then when you went into the lecture, how did you go about conducting a typical lecture?

Well, I, basically just some overheads ... I basically just talked and they just followed along the notes and if there was something that I wanted to do in detail, it was in the notes. I would do that on the whiteboard and sort of work through it slowly. ...

- I. So what were you hoping to achieve when you worked something through on the whiteboard?

Yeah, It was just to emphasise it ... there are some quite difficult concepts in it so those are the things that I tended to do on the white board. It helps me slow down and it sort of focuses them.

Andy's way of experiencing teaching was still teacher-focused with an emphasis on students having the lecture notes, but he felt that students learned best through laboratories and doing assignments. He described what teaching means as getting students to understand, but with understanding described in terms of acquiring knowledge about how things work:

It is still all about getting the students to understand and to learn. I suppose that is how you have to define it. It is about the students' outcome in terms of the students understanding and learning. I guess that is how I define it. Somehow like that.

- I. What do you mean by students understanding?

Oh understanding the subject, to understand the concept of how something works, how a [piece of equipment] works or how an [another piece of equipment] works or something like that.

Like in his second interview, Andy described changes in his understanding and selection of content subject (cA1, cA2). Since the second interview he had also been to some workshops on lecturing with large classes. He had adopted some strategies, such as giving students problems to do in lectures (described in chapter 7 in the category description for cB), but used them in teacher-focused ways, focusing on student activity with the intention of having a break and reinforcing learning. When asked why he chose to use some

workshop strategies and not others, he was uncertain but focused on the resonance they had for him:

I don't know, I guess something in it resonates. I'm not too certain. ... You are just going to pick up something. ... sometimes you just like to try things.

The workshops had some influence on his teaching, but he was still substantially influenced by what he liked as a student:

Well I mean it is just some of the stuff that I have learnt up at [the academic development unit]. But still, still my biggest influence is how I was taught. What I liked and ... some of the students say they like that as well.

Andy remained apparently unaware of variation in ways of experiencing teaching, describing himself in all three interviews as teaching "in the same way as most people teach":

I should imagine I teach in the same way that most people teach and I think the only people who wouldn't teach like that are probably [colleagues] and they tend to be sort of more on the multi media side of things ... I just haven't the time to do that sort of thing.

Like in his earlier interviews, he described teaching as important and perceived that it was talked about and appreciated in his department:

I mean we talk about teaching. ... It's just in the atmosphere.

...

I try to do as good a job as I can and the fact that everyone else is doing the same it makes it feel like you are doing something worthwhile. It's appreciated.

In his third interview, Andy's way of experiencing teaching still mostly related to category B. There were aspects of category C evident in his description of giving students problems to do in his lectures, and in talking to students in laboratories where he could see whether they had been able to make use of material from the lectures. His descriptions of change in

teaching focused on the selection and emphasis in the material and his own understanding of it (cA1, cA2), and on his teaching strategies (cB). Andy did not describe any of the critical experiences or orientations described by teachers whose ways of experiencing became student focused. He did not think reflectively about his teaching and put only the strategy aspect of his teaching into focus.

Andy's focus on making sure that students had his notes remained invariant, but he varied the strategies he used for achieving this in relation to his own comfort and pace of teaching and the amount of class time available. The main influence on his teaching continued to be the way he was taught as a student, and he continued to perceive that others predominantly taught in a similar way⁷.

Andy's vignette provides an illustration of Pattern 1 as manifested over time in the case of an individual teacher. It could also be seen as illustrating a pattern of development of a relatively inexperienced teacher within teacher-focused ways of experiencing.

Pattern 2: A teacher-focused interaction/student activity way of experiencing teaching with aspects of a student-learning focused way of experiencing change in teaching

This pattern seems somewhat paradoxical, but relates to how the teachers experienced student learning (pattern 2a) or what they focused on in their own learning in relation to what they are providing for students (pattern 2b). Teachers whose descriptions fitted with this pattern saw themselves as changing their teaching to help their students learn, but described learning in teacher-focused ways.

⁷ My perception, based on interviewing other teachers from the department and working with them in the GCHETL, was that there was considerable variation in how teachers in the department taught and the ways in which they experienced their teaching.

Pattern 2a, in which change focused on relating teaching to learning, was evident in some excerpts from the transcripts of three teachers: Kelly and Ramesh, who both had more than 5 years teaching experience, and James. These teachers experienced teaching (in the relevant interviews) as teacher-focused interaction and student activities aimed at helping students to acquire and become capable of applying knowledge (category C). Seen from this perspective, relating teaching more effectively to “learning” was seen in terms of students being more active so that they would acquire and develop competence in using knowledge more effectively. Kelly described the acquisition aspect in her first interview in relation to her past and current experiences of teaching:

I’ve done some part time teaching at TAFE and I, they sent me on this course for like three days or five days ... That gave me more ideas of, you know, more student participation. I mean when I started off I was more “I’ll give you the answers and you can go away” but now I see that you really need a high degree of student participation otherwise you know, it’s not going to work.

...

I think even if my students write it down it can go like into their pen and not go into their minds so, you know, you’ve got to think about it that way. (Kelly1)

Ramesh's description was a little different, and seemed to reflect the algorithmic approach to learning described by Case (2000) as intermediate between deep and surface approaches. He perceived that improvements in students’ understanding and ability to apply their understanding could be achieved by having students solve more and more Physics problems. With this intention, he was constantly trying to motivate the students and persuade them to apply more effort to doing problems in tutorial classes and as homework.

James’ description focused on having more “discourse” in lectures and was more problematic to interpret:

I like that word discourse. I think it’s a terrific word and it’s a great way of learning ... It’s where I say something, they think about that and I say “do you agree with that, what do you think, is there another view which you could look at this thing?” and

so that engages the students in actively thinking about the topic whilst the lecture is proceeding ...

- I. Is that something you've always done in your lecturing?

... I tend now to let them speak a lot more, tend to emphasis a discourse part but, as you probably know ... [I] love the sound of my own voice and so I've got to control myself sometimes to allow them to engage in discourse rather than me dominating the discourse ...

- I. That's something you find hard to do?

Yes, I have to pull myself up all the time and give them a chance, ask the right questions, wait 'till they finish cause ... they still aren't very articulate and they, I tend to interrupt them or I tend to want to interrupt them all the time because they tend to ramble around in circles and I know I can paraphrase what they are trying to say in one sentence ...

- I. So the process of this discourse that you're having with the students, what's the ultimate aim of that and how will you know when that's been successful?

Whether they are starting to understand the concepts. Well probably I won't know until the following week when we do our revision lecture. (James2)

While James described himself as having a greater emphasis on discourse and he related this to learning, his description is more suggestive of a teacher-focused way of experiencing teaching. The discourse does not appear to be genuine two-way interaction aimed at finding out about and responding to students' perspectives or understandings. He appears to have little interest in what the students actually have to say, and he makes no mention of learning from students in this or the subsequent interview. Consistent with the rest of his transcript, I interpreted his way of experiencing teaching as predominantly teacher-focused. While he appeared to have some awareness of the need for students to develop their own understandings, his teaching focused on preparing them for this rather than engaging directly with their developing understandings. His ways of experiencing change in teaching were

predominantly related to changing strategies but sometimes relating to improving students' acquisition or application of disciplinary ideas:

I'm trying to teach people to get a total understanding of how the subject I'm teaching works so they can put it together to produce something, ... that will then mean they can develop a skill which can then be used in the outside world. (James2)

Pattern 2b was described by only one teacher, Peter, who had been teaching for more than 10 years. Describing it as a separate sub-pattern is an on-balance interpretation of his perception of change in his teaching. Peter's way of experiencing teaching through all three interviews remained consistent with teacher-focused interaction and student activity (category C) and a strong emphasis on vocationally-focused learning objectives, student practice and feedback. He described teaching as:

Being still a person that somehow attempts to focus their learning or direct their learning, to facilitate, assist in their learning.

And learning as:

Well acquiring an understanding of new things, or how, of learning how to do new things ... Understanding or knowing new things. More than you did before you started.

...

acquiring a skill, yes, that was totally non-existent, or that was less acceptable. (Peter3)

While he described himself as being "more student-centred" variation was not brought about on the meaning of teaching or his assumptions about teaching and learning. For him, being student centred meant focusing on what he and the other teachers were trying to achieve in the course by way of making sure students acquired skills and knowledge for jobs, on employer and market needs and on students as customers who bought something and needed to get value for money. Student satisfaction was in the foreground along with preparing students for work:

Well being much more student centred. I thought I always was ... but I am much more aware of why I'm student centred I guess now. Before I did it for reasons that just seemed natural, now I have a basis for doing it.

- I. Tell me a bit more about that. Tell me, I guess the questions that spring to my mind are what do you mean by student centred and then what is the basis?

What - put it back into the students' mind. I mean what are we trying to achieve for the students as a consequence of this particular lecture or subject or whatever, as opposed to they must know this. "Why should they know it?" is probably my, and ... "what are we trying to achieve here?"

...

when they started paying HECS and things such as that, they were my customer. What were they trying to buy here? That's what has changed. ... So what we have got to do is we have got to make their \$3,800 worthwhile in preparing them for the job but so they don't hate it in doing it. (Peter3)

Pattern 2 overall was interpreted as teachers focusing on improving students' acquisition or ability to apply knowledge and become competent in the discipline or profession (category C), by trying to get students to participate or apply more effort. While teachers saw themselves as seeking to improve learning and changing their teaching with this in mind, they were not focused on learning as development or change in students' understandings. Their descriptions in general did not suggest an awareness of the critical aspects of student-focused ways of experiencing teaching. They did not describe any of the critical experiences described in chapter 6. They were not necessarily dissatisfied with their teaching although, like the teachers in pattern 1, they were dissatisfied with their students' instrumental attitudes and perceived lack of effort. They did not describe the critical orientation of putting teaching into focus.

Despite participating in the GCHETL course, Ramesh, James and Peter did not appear to reflect on their own experiences as learners although they noted having learned some strategies. They engaged in limited reflection on some aspects of their teaching in ways

informed by formal theories, focusing on aspects of theory and strategies which they saw as relevant for motivating students. They all commented in particular on the “backwash” effect of assessment (Biggs, 2003) which they saw as a way of motivating students to apply more effort or apply effort in desired directions. While these teachers experienced themselves as relating teaching to learning or changing their understanding of teaching, this did not relate to them becoming more student-focused in the sense that I have interpreted it in this study.

Pattern 3: A student-focused way of experiencing teaching with a student-learning focused way of experiencing change in teaching

Teachers whose descriptions related to this pattern described student-focused ways of experiencing teaching and understandings of learning. So how they related teaching more closely to learning was very different from pattern 2. It was achieved through giving students more opportunity to construct their own knowledge (Lorraine); helping them to discover links and different perspectives (Julianne); guiding understanding through helping students to link to prior experiences (Frank), helping students more explicitly with their misconceptions (Matthew), or simply adapting teaching constantly to the needs of different groups of learners (Sophie).

I can't really say that it's necessarily been kind of a linear shift from last year to this year. It's just that the contexts are very different in terms of when the lectures are, who the students are, what the field is, what their expertise is themselves, what backgrounds they have and that has kind of led me to teaching a different way.
(Sophie2)

All five teachers' descriptions suggested explicit awareness of variation in ways of experiencing teaching, but they did not describe change as changing their way of experiencing. Sophie continued to express the most complex way of experiencing teaching (category F) across both interviews with, as she suggests, some variation in the nuances or subtleties of her teaching depending on the group of students that she was teaching:

With this group I feel I can be more provocative or stimulating in a sense of opening things up for debate into the grey areas. It's not that I didn't do that last year, it's just that I had to tread much more carefully. (Sophie2)

The other four teachers whose descriptions fitted this pattern all became more student-focused. Matthew expanded his student-focused way of experiencing teaching from category D to E, and his descriptions suggested a constant focus on improving his students' learning experiences. Julianne began to experience lectures, as well as tutorials, in a student-focused way once she had discovered problem-based learning. Frank and Lorraine both changed their predominant ways of experiencing teaching from categories B and C to category D or E.

The latter three teachers all gave examples of bringing about change in one aspect of teaching and discerning variation in other aspects and all began to reflect on their teaching in ways which were informed by formal theories and learning experiences. Their descriptions suggested that they experienced the critical experiences as confirming ideas or suspicions about teaching which had previously been tacit or, in Frank's case, which had not been seen as generally accepted or permissible (see chapter 6 for descriptions from Frank and Lorraine and 7 for Julianne). While I perceived their ways of experiencing teaching to have changed from teacher-focused to student-focused, they seemed to perceive themselves as having brought these student-focused ways of experiencing into the foreground of their awareness where previously they had been in the background.

Pattern 4: A student-focused way of experiencing teaching with a student-learning and teacher-understanding focused way of experiencing change in teaching

All teachers who focused on change as coming to experience teaching in a more student-focused way (cD) also experienced teaching in a student-focused way (categories D, E or F). They either became student focused between the first and second or third interviews, or maintained a student-focused way of experiencing teaching across all three interviews. Of those who became student-focused, five had fewer than three years experience in their teaching roles at the time of interview 1 and Kelly had five years experience. Those who continued to be student-focused varied considerably in their levels of experience. These teachers were explicitly aware of variation in the dimension of ways of experiencing teaching, a critical aspect of student-focused ways of experiencing teaching. They also explicitly described change in their own way of experiencing along that dimension of variation, in a student-focused direction.

These teachers described either all three or two out of the three orientations outlined in chapter 6, along with at least one and in most cases more than one of the kinds of critical experiences. Teachers who continued to be student focused across all three interviews described critical experiences in relation to their past experience of teaching. The critical orientations of putting teaching into focus, desiring to continue to develop or improve teaching and reflecting in ways informed by formal theories or formal learning were ongoing features of their experience.

Teachers who became student focused described critical experiences that occurred in between interviews, or just prior to their first interview. The critical orientation of being dissatisfied or desiring to change teaching was described in their first (or in Sam's case second) interviews, usually along with an indication of putting teaching into focus. These orientations were emphasised by their subsequent interviews when they began to place more emphasis on reflection informed by formal learning. These orientations were then

seen as ongoing features of their experience. I will use a final vignette, of Tim, to illustrate one teacher's experience related to this pattern, and to contrast with the descriptions from Andy.

Vignette 8.2: Tim - changing from teacher-focused to student-focused ways of experiencing teaching

At the time of his first interview, Tim was beginning his third year of teaching. Like Andy, Tim taught in Physical Sciences and was teaching first year service subjects to students from Engineering. His description focused on a subject he was about to begin teaching for the second time, with between 35 and 40 students. The subject was offered in a three-hour block which included lecture and tutorial time, and the students were mostly mature-aged. He also taught in a third year subject, with students from his own discipline of Chemistry. His first interview took place just before he commenced the GCHETL.

Interview 1

Tim's first interview suggested some dissonance between different aspects of his way of experiencing teaching. The typical acts and direct object of teaching most of the time seemed more teacher-focused, but parts of his teaching and his overall intentions were at odds with these aspects. He indicated that he was seeking to improve his teaching:

I guess I have pretty much done the classical chalk and talk, and with the first time around, that had varying degrees of success. In the initial phase the students found it quite a stumbling block just to get to grips with some of the really basic concepts. As they got to grips with those subjects, they picked up speed and the more sort of informal chalk and talk method actually worked very well and the final lecture tutorial, the final half dozen, it was a very informal exchange almost, between myself and the students and quite interactive. So it was working well at the end of the course, probably not so well at the beginning and that is what I would like to focus on improving.

Tim's initial description suggested an awareness of variation in the act of teaching – between more formal one-way transmission and informal interaction. The “classical chalk and talk” in lectures in the first part of the subject involved transmitting concepts followed by worked examples. As the class was three hours, Tim saw a need to break this time up by doing some demonstrations and getting students to do problems in the tutorial component.

I don't think that anyone's attention span really lasts more than an hour, probably 45 minutes is about as much as you can stand and chalk and talk to somebody anyway. ... You have got to do other things, break it up and get them involved in, even in doing tutorial problems, that sort of thing. At least they are doing a different activity.

The purpose of the tutorial problems was to familiarise the students with the Chemistry language and concepts of the subject. This related to the direct object of Tim's teaching for the subject, which was facts and basic concepts at a level appropriate for students majoring in Engineering:

I guess basically initially you have got to provide them with the facts obviously, but also, and I guess more importantly, you have got to have those facts if you like, set within the concepts you are trying to teach. ... it wasn't so much the incredible detailed knowledge that an analytical chemist might require but more of an appreciation for at least to understand what a chemical equation means.

When he discussed his preparation for classes he focused on the content he was going to present and the resources that he needed:

Pretty much it is a refamiliarisation of the material that I am going to present and I guess a collection of the materials for the presentation.

Towards the end of semester, the direct object of teaching included applications of the subject matter and the act of teaching included the responsive two-way interaction described above. Tim seemed to value these informal discussions with students, however his suggested improvements focused on presentation aspects of his teaching:

Well, basically I think really the presentation material and maybe what I am going to deal with in the first stage is going to be more worked out. ... I want to actually give them more resource material, more notes, perhaps go through some of the concepts in a more rigorous and systematic way.

However, Tim's descriptions of what he wanted students to gain from the subject included student-focused aspects. As well as picking up facts and concepts, Tim also would like students to be able to look at the world from a different viewpoint:

... I would like to get them to actually enjoy the subject ... engineers, technologists traditionally have a mistrust of chemistry ... And the other thing apart from the enjoyment option, I guess is appreciation of looking at the world in a different way. Like engineers and technologists can be perceived as ... looking at the world with one particular viewpoint and giving them another vista to look at and saying "okay, there are many ways of looking at the world".

...

- I. So if that is what you want them to achieve, what would tell you whether a student has achieved that or not?

That is a good question. (pause) I haven't actually addressed that question. That is a very good one. I suppose, like the methods of assessment that we have like the examinations and stuff are all content related more than anything else, even if the questions are on engineering applications, so I am not quite sure how you quantify that.

The way Tim responded to questions like this suggested that he was thinking about some of these issues for the first time in the interview. He commented that deciding to do the GCHETL course had encouraged him to focus on and think more about his teaching:

I think really I am thinking more about what I am teaching and how I am teaching than I have until this point. So even though I haven't really enrolled yet, I feel like I have got something out of it already. ... I guess using the theme to help me focus on what I am teaching and how to improve that

Also, a teaching improvement scheme was about to start in his Department and Tim was looking forward to being involved. He described the main influences on his teaching so far his discussions with colleagues about course content and strategies for explaining. He was also influenced by feedback from the students, obtained both directly and indirectly via the course-co-ordinator. He felt that he was developing some skills in teaching and starting to enjoy it, and was enthusiastic about improvement possibilities:

Teaching first year Chemistry, this is my third year now, so I am developing some skills in it I hope, but I am starting to enjoy it actually and I am quite enthused by the possibilities opening up this semester.

Tim's first interview suggested that his predominant way of experiencing teaching in his subject related to category B for much of the semester and category C, with some aspects of category D, towards the end. There was a sense in which he had not yet made an explicit connection between his teaching and his students' learning – the informal interactions at the end of semester were described as if they simply happened rather than being something that he encouraged to happen. From my perspective there were elements of dissonance in his descriptions, but he did not yet seem explicitly aware of this.

The changes that Tim intended to make to his teaching relate to category cA2, changing the way his subject matter is organised and represented in his teaching. However, he also described several of the orientations described in chapter 6. He had put teaching into focus, was beginning to reflect more on teaching and had a desire to improve his teaching. While he saw his role as providing facts, concepts and applications, his espoused intention for students' learning was more student focused. Like Ellen and Neil, described in chapter 6, in his first interview Tim seemed to be beginning a process of change.

Interview 2

By Tim's second interview at the end of the year, his way of experiencing teaching had become more coherently student-focused. His descriptions suggested simultaneous

awareness of variation in the dimensions related to category D. His description of preparation for teaching indicated awareness of students' backgrounds and of variation between his interpretation and students' possible interpretations of industry situations. He focused more on the students' likely questions and prior experiences and tried to use this as a basis for teaching:

I'm focusing on what sort of question that the student is going to ask but also I think it's more of awareness of their background, I think, which helps too. ... They may have seen examples of Chemistry in the industry workplace but they may not have interpreted that as being, as Chemistry being important in that particular situation. ... I've found that for example, if you talk about applications, you can really engender a lot of discussion. They really are fascinated by understanding certain processes.

Similar to the critical experiences described by other teachers who tried out something different, Tim found that relating what he taught to students' interests and experiences engendered the discussion that he valued. Rather than providing more rigorous content, he now focused more on applications. He also tried to encourage more discussion in which students contributed their work experience, and related this to feeling less scared about giving up control and more confident about his subject matter.

I made some minor changes in it, mainly more on my teaching approach in that I tried to be less didactic. Less of a transmitter and encouraged more discussion at tutorial time and that was something that was a deficiency in the subject. ... Possibly it was that I was scared to make that move, throw it open to them, to leave the control to the students. ...

I. Can you describe what you did that was different and why you did it?

... really just making it more of an open forum than it had been in the past. ... They are mature students with considerable work experience ... it wasn't ... just a strategy on my part should I say, but it's something that they certainly took up as well. ... I think probably also I'm more confident with the material that I'm presenting as well and that is a factor in that. ... I found I could relate different parts of the material to

whatever discussions we were having. It wasn't a huge change, I don't believe. I certainly see room for improvement.

Tim appeared in his initial interview to have had an awareness of variation between different acts of teaching. By his second interview his description suggests an explicit awareness of variation between different ways of experiencing teaching:

it seems like a hackneyed phrase but it is about facilitating learning. So teaching is not just standing up in front of the class transmitting a notion. ... it actually is important for the students to own, I think anyway, what they are doing in a subject, if you can get them to do that.

...

I guess it's the awareness of the student in the process. It's not a one-way process from lecturer to student, that it's interactive and multi-threaded and there's a bouncing of ideas. I think the duality of the system, that the student is equally as important as the teacher if not more so and I think that's the key differences between the two approaches.

This comparison was consistent with the change in Tim's ideas about teaching between the two interviews. Tim's comments suggested that he felt that the change had been in some ways a natural progression:

I do think ... there's been a shift in my ideas, but ... I think I was predisposed to thinking along these lines. I don't know. I've always tried to improve my teaching each semester but I guess it's always been teaching as an amateur rather than thinking about, looking at the literature and discussing with my colleagues.

Tim's descriptions suggested a complex pattern of inter-related aspects which related to change. Some of these aspects related to the orientations of putting teaching into focus, seeking to change teaching and thinking reflectively about teaching in ways informed by formal learning:

Really what changed is I made the time I think, to think about it. ... I actually have been focusing more on my teaching. Rather than just doing it, rather than just sitting

down for a 1/2 hour or 1 hour before the class and reading over my notes and delivering, I've been reflecting more about each session ... I think I've got more of a structure to be able to do that this year.

Tim also spoke several times about feeling more confident through having a structure or framework for thinking about teaching, and this was related to critical aspects of a student-focused way of experiencing teaching. He described this framework as informed by reading literature and others' experiences, with the latter enabling him to see how he could apply new teaching strategies.

Some ideas I guess I had thought about but I guess it's having the confidence and ... sharing the full information with my colleagues, to be able to apply those methods. ...

- I. What, so that helps build the confidence?

Yeah I think so, in that I can see that other people have looked at these problems, experienced them and have come up with solutions that have worked or haven't worked and it's provided a framework I think for me. ... That's been a great help to me in thinking about my teaching and hopefully it will enable me to develop some of these things in the future.

...

very much part of the framework I suppose too is having an introduction to the literature, which is another thing again.

- I. What's the framework that you're talking about?

I guess what it is, it's the knowledge of how students learn and how one's teaching affects that. You facilitate it or you don't. ... Thinking about how students learn, thinking about the students' perspectives instead of sort of worrying about getting the lecture material.

...

Well, obviously content's important but I think it's a sacred cow for a lot of people and the fact it's more that I think that if you actually encourage people to learn you can probably reduce the content so they'll learn beyond the subject.

In addition to his experiences in the GCHETL, Tim's ideas were also influenced by the departmental project that he mentioned in interview 1. He now saw it as important to change not just his own acts of teaching but also the design of the subject as a whole, and he favoured developing an issues-based approach:

I think the problem is that ... I teach the chemistry of chemistry ... which I've inferred is the wrong way to teach engineers or technologists. ... That would, may seem obvious but it actually took a lot of grappling to come to that idea. To turn it around, what we are doing in this subject ... talking about the applications, the issues first, so they are the first layer. You then address the chemistry on a need to know basis ... If you pick though the applications and issues cleverly you can address the information that you believe they need to know and they will hopefully respond.

...

- I. Why do you see it as being important now to turn it around?

I think really the acceptance of the material ... they don't see it as being core and yet it is in the course and in the course for a reason. ... I think as a lecturer ... you carry that with you but the student doesn't necessarily carry that with them.

...

- I. Are there other reasons for turning it round or is that the main one?

Well it just, also I think it'll make it more interesting for them as well. ... I think making it more meaningful to the student is probably the key thing, you know. I mean acceptance is part of that.

Overall, Tim's second interview suggested that his predominant way of teaching had become student-focused (category D with aspects of category E). He experienced change in teaching as coming to experience teaching in a student-focused way (category cD) and contrasted facilitating learning with transmitting. Changes in Tim's way of experiencing teaching also related to the set of orientations described in chapter 6, and to the themes of becoming aware of students' perspectives and trying out something new and noticing related aspects of student-focused ways of experiencing. He described himself as constantly seeking feedback from his students, and interpreting it in terms of how his teaching related to their learning (cC). He often mentioned talking with others, but this

focused on ways of enacting teaching strategies effectively rather than on overall ways of experiencing teaching.

Tim's actual teaching practices were changing incrementally, as he tried to implement ideas which were consistent with his changing way of experiencing teaching. He had made small changes, but was not yet teaching in accordance with his new ideas.

I. What do you see as being the next change?

Well I think as I say integrating these ideas to my courses. I have some of that already but it's really, it's really practising what you preach, what you understand.

Interview 3

Tim's third interview took place 13 months after the second, before the start of a new teaching year. In the previous year, Tim had been on study leave overseas for six months. He was no longer teaching the subject he had described in his first and second interviews, but had taken over the co-ordination of another first year subject, again taught to Engineering students. The subject had a much larger enrolment, with mostly school leavers rather than students with work experience. At the time of interview, Tim was planning for teaching the subject a second time. When asked about teaching, his descriptions constantly focused on the changes he was making in the design of the subject as a whole. Some of the reasons for change were the same as those described in relation to the other subject - wanting the Engineering students to see the subject as meaningful for them - but there were also larger problems stemming from before Tim took over the subject:

well, the students weren't learning, and they weren't passing the exams real well, they weren't enjoying the subject, they weren't turning up. There was a real need for change there.

Tim's descriptions of his teaching suggested that he continued to be aware of a student-focused way of experiencing teaching (category D) and in the previous semester had attempted to enact this where he saw it as possible:

The way that it was handled last semester is we would probably start the lecture with looking at the laboratory post work ... actually go through those exercises, identify any particular problems that people had with that, and sort of run a sort of tutorial session on that.

I. And when you say you go through them, how did you go about doing that?

What I would normally do is I would not write the answers out myself. I'd actually prompt the students for answers and get them to sort of comment on the veracity or otherwise of their preferred answer. ... If they had difficulty with particular ones then I'd go through and correct ... to try and use it as a learning device. I don't really want to say "here are the right answers, copy these down".

This was very different from the previous lecturer's teaching. While students were learning better than they were before, Tim's intentions were not yet being realised:

The students are performing much better than previously, so I think just by just almost dusting off the notes and updating them we've achieved better, but I think in terms of *really* learning something about chemistry and where it fits into the whole engineer's concept and sort of learning how to draw upon information if required, I think that's not there at the moment.

Tim's descriptions of why he intended to change the subject and of the changes he intended to make for the coming semester reflected a consistent focus on relating teaching more closely to student learning (cC). He intended to help students to see the subject as relevant to their worlds and to develop their understanding and problem solving approaches (categories D and E):

Again, I think it's ... establishing relevance of the science of chemistry to the engineering student and also to their world. ... So one way this has been suggested is

look at case studies ... where we try and put the student engineer in a situation where they are solving similar sort of problems to what maybe a graduate engineer may be solving in reality. ... for a civil engineering they might have to do a roadway environmental impact statement. ... Once you get involved with what's required, understanding chemistry does become an integral part of that.

...

I suppose it's teaching problem solving, it's teaching study skills, that sort of approach, but in the chemistry environment, understanding chemistry, chemical language, but not so that they have to rote learn chemical symbols or anything, but knowing where to go to develop an approach to a particular problem.

The acts of teaching that he intended to implement emphasised facilitated discussion where students contributing ideas (category D) and developing students' independent learning skills:

Instead of some of the lectures, there'll be more of a say, facilitated discussion, with then some time for them to work on the case studies and so I think the overheads in teaching may be higher but I think the result might be better.

...

I imagine they'd have a quite a bit of resistance from the students to start, just in terms of reticence and ... trying to get comfortable with sort of opening up, suggesting ideas ... Most of the skills we'd have to actually build into I think teaching the course ... so that they are not suddenly dropped in the deep end.

Tim aspired to be what he saw as a professional university teacher, and, like in his second interview, he contrasted being professional and facilitating learning with being an amateur:

For some time there's been a dissatisfaction with the sort of traditional approach. There's got to be a better way of doing things. I do actually credit the graduate certificate as being a major eye opener for me. Not just pointing me to the literature but also sort of demonstrating examples of where these sort of methods have been successful. ... I think that the idea of constant improvements and constant innovation are something that we should be looking at as professionals in whatever our chosen field is. Actually something that's very important to me is the whole sort of concept of professionalism in teaching. ...

I. What does professionalism in teaching mean to you?

Well, again, like the awareness of lecturing innovations ... in terms of the current literature on the way people think and how you can facilitate that. ... I think that's knowledge of that and an attempt to try and apply that. I think that's all part of a professional approach. I think by just turning up five minutes before the lecture, giving the notes on the blackboard in chalk and then going off and doing your research ... then I think that's not professional. That's like an amateur.

Tim now described teaching as being about facilitating students' learning by whatever methods are appropriate:

You're there to facilitate learning ... I think that it's really that. However you can. That's by a variety of methods. Some of the traditional approaches are appropriate in certain circumstances. Some of the new approaches are appropriate too and I think there's a blend in terms of the process of facilitating their learning

His description of student learning now focused on internal ownership of ideas:

I think it's sort of internalising something. I think it's probably the key to learning I think. Actually having that insight, if you like. And applying it too to a new situation so that you may, if you can, say oh, I can make, "that's just like such and such" ... that's part of having that sort of internal ownership of the idea. You don't just see it in one setting but you can sort of pick up and sort of connect it to other ideas which may or may not be related.

Tim's third interview suggested that he continued to be aware of student-focused ways of experiencing teaching (categories D and E) and saw these as connected with being professional as a teacher. As in his second interview, he continued to evaluate his teaching and students' learning with the aim of bringing about continued improvements (category cC). While his descriptions suggested explicit awareness of variation between teacher-focused and student-focused ways of experiencing teaching, he no longer described change in teaching as becoming more student-focused. His focus was now on implementing his

student focused ideas, and like Sophie and Matthew whose descriptions related to pattern 3, he appeared to have come to see teaching as facilitating learning by whatever methods were appropriate for the students, the subject and the context.

Summary and interpretation: Change from teacher-focused to student-focused ways of experiencing. How does it come about?

This chapter has described four patterns constituted from the ways of experiencing teaching, critical experiences and orientations related to change, and ways of experiencing change in teaching described in chapters 5, 6 and 7. These patterns point to the importance for teachers' ways of experiencing teaching of their ways of experiencing change in teaching and ways of experiencing student learning, an aspect of the indirect object of teaching. This pattern of relations is illustrated in table 8.3. The vignettes from Tim and Andy contrasted the patterns experienced by teachers who remained teacher-focused with those who became student focused. Tim and Andy's descriptions also suggest possible relations between ways of experiencing change in teaching and alternative development paths for teachers.

Teachers whose descriptions related to pattern 1 described awareness of variation in content selection and organisation and in teaching strategies but remained focused on themselves and their teaching. While they often became more confident or efficient or expanded their range of teaching strategies, they did not bring about variation on the relation between teaching and learning, or on ways of experiencing teaching. While Andy's description was the most extreme, these teachers often assumed that everyone

Table 8.3 Patterns of relations between ways of experiencing change in teaching, teaching and learning in relation to teaching

Ways of experiencing change in teaching	Ways of experiencing change in teaching	Ways of experiencing teaching	Ways of experiencing students' learning in relation to teaching
<p>Pattern 1 A teacher-focused way of experiencing teaching with teaching-focused ways of experiencing change in teaching</p>	<p>changing the content which is taught (cA1, cA2) or changing teaching strategies (cB) in order to improve teaching</p>	<p>transmitting information so that it is passed on (A) organising, explaining and demonstrating information so that students acquire disciplinary concepts and methods (B); or teacher-focused interaction and student activity to help students to become capable of using the concepts and methods of the discipline or profession (C).</p>	<p>acquiring or acquiring and then applying knowledge and understanding</p>
<p>Pattern 2 A teacher-focused way of experiencing teaching with aspects of student-learning and teacher-learning focused ways of experiencing change in teaching</p>	<p>relating teaching more closely to learning in order to improve students' learning (cC)</p>	<p>teacher-focused interaction and student activity to help students to become capable of using the concepts and methods of the discipline or profession (C).</p>	<p>acquiring and then applying knowledge and understanding</p>
<p>Pattern 3 A student-focused way of experiencing teaching with a student-learning focused way of experiencing change in teaching</p>	<p>relating teaching more closely to learning in order to improve students' learning (cC)</p>	<p>a facilitative process of relating teaching to learning to help students to develop their own disciplinary or professional understanding. (D)</p>	<p>development or change in</p>

<p>Pattern 4 A student-focused way of experiencing teaching with a student-learning and teacher-understanding focused way of experiencing change in teaching</p>	<p>coming to experience teaching in a more student-focused way through improving understanding of teaching and students' learning (cD)</p>	<p>guiding students to explore and develop professionally and personally and become independent as learners (E) challenging and enabling students to change the relation between themselves and the world. (F)</p>	<p>personal understandings</p>
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taught in the same way or with some differences in strategy, although some may be better at doing this than others. These teachers did not become student-focused because they were not oriented towards their situations in ways which created relevance structures for discerning the critical aspects of student-focused ways of experiencing.

Andy's experience may reflect a possible teacher-focused development path. Like Andy, some inexperienced teachers progressively develop and expand their awareness by focusing on refining content and expanding their repertoire of teaching strategies, but within teacher-focused ways of experiencing teaching. While these teachers might feel more confident and comfortable with teaching over time, their focus remains on themselves and their teaching.

The more experienced teachers whose descriptions fitted with this pattern focused on efficiency, and in particular on the time tradeoffs that they perceived between teaching and their disciplinary or research interests. The dissonant aspects of their descriptions suggested that they were aware of at least some aspects of student-focused ways of experiencing teaching but either were not aware of other aspects, or these aspects were not evoked in their teaching situations. These teachers typically perceived that many of their students lacked interest or effort, and they saw this as a constraint on their teaching rather than as something which could be influenced by changes in teaching. These negative perceptions of students are typically associated with teacher and transmission-focused rather than student-focused ways of experiencing teaching (Hativa, 2002).

Teachers whose descriptions related to pattern 2 did not become student focused, but perhaps for different reasons. They experienced themselves as already focusing on student learning, but saw this in terms of acquiring and applying external knowledge and understandings. Their descriptions did not suggest awareness of the critical aspects of the direct or indirect objects of student-focused ways of experiencing teaching. Interactive or participative acts of teaching were therefore seen as opportunities for checking on acquisition or providing opportunities for practicing application rather than as opportunities for mutual learning and for students to compare and develop meanings. For these teachers

to become aware of student-focused ways of experiencing teaching, they might first need to become aware of variation in ways of experiencing student learning.

Teachers whose descriptions related to patterns 3 and 4 became or were already student-focused. Teachers, like Tim, whose ways of experiencing teaching became student-focused, typically showed signs in their first interview of the critical orientations described in chapter 6. When they experienced situations for learning about teaching, they experienced relevance structures which related to understanding the meaning of teaching and relating teaching to learning. Through a series of experiences over time, they became aware of critical aspects of student-focused ways of experiencing teaching and of variation in ways of experiencing teaching as a whole. Their experiences also suggest a possible student-focused development path, in which teachers' awareness of becoming more student-focused brings about a desire to enact more student-focused ways of experiencing which relate teaching more closely to learning.

The difference between patterns 3 and 4 relates to a difference in the focus of the teachers' awareness of change in teaching. Both patterns include an expansion of awareness of student-focused ways of experiencing teaching. In pattern 3, teachers are aware of deepening their understanding of the relation between teaching and learning in general or in specific situations, whereas in pattern 4 teachers are explicitly aware of deepening their understanding and shifting their focus. In both patterns, teachers are aware of variation in ways of experiencing teaching but in pattern 3 this variation was not a dimension of their experience of change in teaching.

One interpretation is that the difference in these two patterns relates to the temporal, situational and personal frames of reference that the teachers were using when describing change in teaching. Temporal differences were most obvious in teachers whose descriptions continued to be student focused across all three interviews. Those whose descriptions related to pattern 4 often made contrasts between their current understandings and the understandings and focuses they took as beginning teachers. For the latter group,

change between one semester and the next was seen as an incremental part of continuing to become more student focused as a teacher. Those whose descriptions related to pattern 3 typically focused on change across a semester or two semesters. Perhaps changes in their overall way of experiencing teaching did not come to the foreground in relation to this timeframe, or perhaps they had simply begun as and continued to be student focused in their ways of experiencing teaching. While they were aware of variation between their own and others' ways of experiencing teaching, they had not experienced this variation in relation to their own way of experiencing.

Differences in situational and personal frames of reference were more obvious in teachers whose ways of experiencing teaching changed between interviews. Those whose descriptions related to pattern 3 described change in ways suggesting that previously tacit student-focused understandings had become explicit and capable of being evoked in their teaching situations. They either became aware of aspects of student-focused ways of experiencing which completed the pattern of aspects and enabled them to enact these ways of experiencing in their teaching situations, or became aware of aspects of the teaching situation which no longer afforded teacher-focused ways of experiencing. Descriptions related to pattern 4 focused more directly on becoming aware, which was related to a desire to enact the new awareness.

The next chapter concludes this thesis, by extending my interpretation of these patterns, making connections back to the literature and suggesting implications for academic development practice.

Chapter 9

Variation and change in teachers' ways of experiencing teaching and the space of variation for university teachers' learning

In this chapter I revisit and reflect on the previous chapters of this thesis to elaborate on the outcomes and implications of my study. I will begin by looking at how the focus questions for this thesis have been addressed by the research outcomes described in chapters 5 to 8. Then I will relate these to the literature described in chapters 2 and 3, to look at what these outcomes contribute to our further understanding of university teachers' ways of experiencing teaching and teacher development and change. I will then outline some implications that the research outcomes have for future research and for academic development practices that seek to encourage change in university teachers' ways of experiencing teaching.

The focus questions for this study, as stated in chapter 1 were:

1. How do university teachers' ways of experiencing teaching change? In particular, how do teachers become capable of experiencing teaching in student-focused rather than teacher-focused ways?
2. Why do some teachers' ways of experiencing change from teacher focused to student focused, while others remain teacher focused?

These questions were addressed from the theoretical perspective of variation, learning and awareness. This involved focusing on the critical aspects that distinguish student-focused

from teacher-focused ways of experiencing teaching, and interpreting how these critical aspects came to the foreground of teachers' awareness in situations of learning about and/or enacting teaching.

The focus on variation as a necessary condition for learning (Marton and Booth, 1997; Marton and Trigwell, 2000; Marton and Tsui, 2003), combined with the focus on variation in teachers' ways of experiencing teaching and change in teaching distinguished this study from previous studies of change in university teachers' conceptions or beliefs about teaching (Ho, 1998, 2000) or learning (Halliday and Soden, 1998). The variation and learning perspective enabled the question of why some teachers changed their ways of experiencing teaching and others did not to be addressed in terms of differences in what teachers sought to achieve and focused on when they engaged in changing their teaching. Teachers whose ways of experiencing remained teacher focused were not resistant to change per se, and did not simply fail to discern and focus on aspects of student-focused ways of experiencing teaching. They discerned and focused on different aspects of their teaching and situations and experienced different patterns of variation.

The importance of what teachers focused on related to a second critical feature of the perspective taken in this study, the focus on intentionality as characteristic of human experience of the world (Marton and Booth, 1997; Sandberg, 1997; Husserl, 1980). Teachers' acts of teaching and change in teaching have an intentional character; they point to something beyond themselves. As described above in the previous chapters, there are qualitative differences in what teachers teach or change (direct objects) and what they seek to achieve through teaching and through changing their teaching (indirect objects). These qualitative differences relate to teachers experiencing different relevance structures, and therefore different dimensions of variation in situations of teaching and/or learning about teaching.

The explicit focuses on variation and the intentional nature of teaching and change in teaching enabled this study to extend our understandings of why, in similar learning

situations, some teachers change their ways of experiencing teaching and others do not. Different teachers focus on different things in these situations and achieve different learning outcomes. There are parallels with the early studies of students' approaches to learning (Marton and Säljö, 1976a) in which what students learned from reading a text was related to what they focused on in their reading and how they focused on it.

Teachers in this study who became capable of experiencing teaching in student-focused ways focused on understanding teaching in relation to students' learning. This focus on understanding was an aspect of ways of experiencing change in teaching as becoming more student-focused, or as relating teaching to learning when learning was seen as development or change in understandings. It related to being oriented towards putting teaching into focus and reflecting in ways informed by formal learning. Teachers who focused on understanding teaching in relation to learning experienced relevance structures which brought the critical aspects of student-focused ways of experiencing teaching to the foreground of teachers' awareness so that they experienced corresponding dimensions of variation. Teachers' awareness of teaching expanded and this corresponded to a shift in the focus and meaning of teaching for the teacher.

Teachers who remained teacher focused also sought to change their teaching, but most of these teachers focused on their own interest, comfort, efficiency or innovativeness and their students' reactions. These focuses were aspects of experiencing change in teaching as changing content or strategies. Teachers who took these focuses experienced relevance structures in which dimensions of variation related to these focuses were in the foreground of their awareness. They did not come to experience the critical aspects of student-focused ways of experiencing teaching. A few teachers who remained teacher focused perceived themselves to be relating teaching to learning, but saw learning as acquiring and applying external knowledge. They experienced simultaneous variation in teaching and in dimensions of students' participation or motivation that they perceived to be necessary for learning, but not in ways of experiencing learning.

As described in chapter 8, there were four patterns which related whether teachers became or continued to be student focused or remained teacher focused to their ways of experiencing change in teaching and to particular kinds of critical experiences and orientations. Two of these patterns were teacher focused and two were student focused. In this chapter I will begin by elaborating further on these patterns and how they relate to teachers' experiences of particular dimensions of variation and relevance structures for learning. I will then describe how the features of these patterns relate to and differ from the themes from the literatures on teacher development and change that were analysed in chapter 3.

Patterns of variation and change in teachers' ways of experiencing teaching

As illustrated in chapter 8, teacher-focused patterns were distinguished from student-focused patterns by different ways of experiencing teaching (chapter 5) and change in teaching (chapter 7) and to the aspects of teaching related to teachers' ways of experiencing learning (chapter 5). Student focused patterns were related to particular orientations towards situations for learning about teaching and particular experiences in which teachers became aware of critical aspects of student-focused ways of experiencing teaching (chapter 6). Both the teacher-focused and student-focused patterns included experienced and relatively inexperienced teachers.

From the perspective of the theory of variation, learning and awareness, described in chapter 3, learning requires the experience of variation related to the critical aspects of what is to be learned and requires learners to experience relevance structures which bring these aspects and the corresponding dimensions of variation to the foreground of their awareness. In this section I will expand on the critical experiences of variation and relevance structures for learning described in the previous chapters.

Critical experiences of variation related to student-focused ways of experiencing teaching

The two student-focused patterns related to teachers being or becoming aware of the complementary critical aspects of, at minimum, the least complex student-focused way of experiencing teaching (category D). What is taught (the direct object of teaching) is experienced as a relation between teachers' understandings and perspectives and students' understandings and perspectives. It includes but extends beyond teacher and disciplinary understandings. The act of teaching is experienced as facilitating learning. This involves two-way interaction in which understandings and experiences are compared, learning is mutual and teaching responds to students' understandings and experiences. It includes presenting, explaining and providing opportunities for student application and practice, but extends beyond these, as learning is understood differently.

What the teacher seeks to bring about by teaching (the indirect object) is students' development of their own understandings of the discipline or professional area, not just their acquisition and application of external understandings. It is recognised that students might have qualitatively different understandings and perspectives from the teacher and from each other. These aspects of teaching relate to teachers' understandings of student learning. As was described in chapter 8, different ways in which teachers understand student learning in relation to teaching mark the difference between teacher-focused and student-focused patterns in which teachers perceive themselves to be changing teaching in ways which relate teaching more closely to learning.

Simultaneous awareness of this complementary pattern of aspects implies awareness of a particular pattern of dimensions of variation and an intertwined student-focused meaning of teaching. Awareness of this overall pattern of critical aspects was related to teachers having an explicit awareness of variation in ways of experiencing teaching.

As we saw in chapter 6, there were some common themes in the experiences through which teachers become aware of the critical aspects of student-focused ways of experiencing

teaching, and these relate to the experience of particular patterns of variation (Marton et al, 2003). *Experiencing aspects of teaching from the students' perspectives* and *experiencing different students* related to teachers experiencing *contrasts* between aspects of their own, often taken for granted, perspectives and those of the students. The teachers who described experiencing different students were able to separate variation in aspects of students' perspectives from other dimensions of variation in the students. Becoming aware of these contrasts for the first time was often related to a strong affective response. The nature of this affect varied between different teachers, with descriptions ranging from devastation and astonishment to excitement and fascination, but it had the common feature of creating a desire for teachers to act on their new awareness. Variation in the dimension of students' perspectives was then fused with variation in dimensions of the act of teaching.

Having become aware of contrast between students' perspectives and their own on a particular dimension of variation, teachers who came to experience teaching in student-focused ways seemed sensitised to the possibility that there might be variation on other dimensions. This included variation in how students understand the subject matter and how they experience the teaching and learning environment. Teachers came to see that the act of teaching includes finding out about and responding to this variation and sought strategies for achieving this, for example by listening to students, asking particular kinds of questions or seeking and acting on formal and informal feedback.

Critical experiences related to the themes of *bringing about change in one aspect of teaching and discerning variation related to other aspects* and *being a learner/observer* enabled teachers to experience contrasts between aspects of different dimensions of variation and fuse these aspects by experiencing them simultaneously. For example, teachers became aware of simultaneous variation in acts of teaching (their own or others) and in students' (or their own) experiences of learning and learning outcomes. What these two themes had in common was that teachers discerned and focused on variation in ways of experiencing learning in relation to teaching. Teaching which was related to a view

of student learning as acquiring and applying given knowledge was contrasted with teaching related to students developing or constructing their own knowledge.

Like Neil, Ellen and Tim, whose experiences were described in the vignettes, most teachers described a series of learning experiences which happened over a period of time. Some experiences afforded contrast in a dimension of variation related to one aspect of teaching, and separation of this dimension from other aspects of teaching or the thematic fields of teaching. Other experiences afforded fusion of previously discerned and separated aspects.

Becoming explicitly aware of variation between teacher-focused and student-focused ways of experiencing teaching appeared to relate to teachers seeking to understand teaching and becoming aware of formal theories which enabled them to interpret what was happening in their teaching in terms of students' learning. The vignettes from Ellen (chapter 6) and Tim (chapter 8) as well as other teachers suggested that the beginnings of this explicit awareness related to awareness of some other critical aspects of student-focused ways of experiencing teaching and this then related to teachers having a desire to develop their understanding of teaching further. Teachers then tried to teach in ways consistent with their changing understanding, noticed effects on students' learning and this expanded their awareness further. An initial awareness that teaching *can* be experienced in different ways – as facilitating compared with spoon feeding, telling or transmitting - seems to provoke a desire to achieve a deeper understanding of what it *means* to experience teaching in a student-focused way in teachers' teaching situations.

While the above patterns of variation were experienced only by teachers who were or who became student focused, this was not the case for the generalisation pattern of variation in teaching strategies. Most teachers in the study experienced variation in teaching strategies and how they worked in particular contexts. They became aware of different strategies through discussing or comparing strategies with peers, or through reading or participating in academic development workshops.

Different ways of experiencing teaching corresponded to experiencing variation in strategies simultaneously with variation in different other dimensions. For example, both Andy and Sam (chapter 6, categories cB and cC respectively) became aware of the strategy of student problem-solving in lectures. For Andy it was a break for him, which possibly reinforced students' acquisition of material whereas for Sam it was an opportunity for students to develop and test their own understanding and for him to find out how they were understanding. Andy appeared to experience simultaneous variation in his strategies and his own comfort in lecturing, whereas Sam experienced simultaneous variation in his strategies, his students' understanding and his understanding of his students' understanding.

The difference in simultaneous awareness between Andy and Sam again points to the importance of teachers becoming aware of variation between student acquisition and application of external knowledge and students' development or change in their own knowledge. Without this awareness, teachers may intend to relate their teaching to students' learning (as in pattern 2 in chapter 8) but be focusing on indicators like participation that they see as related to learning rather than on how students are understanding.

Becoming aware of variation in ways of experiencing learning in relation to teaching, becoming aware of variation between student and teacher perspectives (also related to learning), and becoming explicitly aware of variation in ways of experiencing teaching as a whole seem particularly critical for enabling teachers to become aware of student-focused ways of experiencing teaching. Once aware of critical aspects related to these dimensions, teachers seem readily able to experience them simultaneously with variation in strategies. Variation in strategies per se does not necessarily relate to becoming aware of variation in other dimensions, but as in the case of Lorraine (chapter 6) it may relate to a prior awareness being evoked in a different situation.

Experienced relevance structures

As described in chapter 3, whether teachers became aware of student-focused ways of experiencing teaching related to the relevance structures that they experienced in situations of learning about teaching. Whether student-focused ways of experiencing teaching were evoked and seen as possible to enact in their teaching situations related to the relevance structures that they experienced in their teaching situations.

The experienced relevance structure of a situation is an internal relation between the teacher and the situation, but can be looked at from two sides: that of the teacher and that of the situation. It is the same structure, but different aspects can be brought to the foreground when it is looked at from different perspectives. From the situation side, particular situations contain particular spaces of variation (Runesson, 1999). These spaces of variation relate to what it is possible for a teacher to discern. Dimensions of variation that are not present when a teacher is in a situation cannot be experienced, so related aspects cannot be discerned, but dimensions of variation that are present might or might not be experienced. In this study, teachers who became capable of experiencing teaching in student-focused ways experienced some different learning situations from those who remained teacher focused but also experienced similar situations to have different relevance structures.

From the teachers' side, the relevance structures that teachers experienced related to the prior experiences, orientations and intentions that they brought to situations of teaching or learning about teaching. As was evident in chapter 7, there was variation in what teachers focused on when they sought to change their teaching and in what they were seeking to achieve through bringing about change. Differences in focus and intention related to different aspects of teaching being brought to the foreground of awareness, and different dimensions of variation between past and present experience being discerned. Teachers' ways of experiencing change in teaching (chapter 7) related to the orientations they took towards situations related to change in teaching (chapter 6) and to the relevance structures they experienced in these situations.

The orientation of *putting teaching into focus* corresponded to being open to noticing, questioning and reinterpreting aspects of teaching and learning which might previously have been undiscerned. This was related to teachers asking “why” questions, and forms a pair with the orientation of *reflection informed by formal learning* which related to teachers responding to their own questions from more informed perspectives and asking more student-focused questions. Both of these orientations related to teachers experiencing relevance structures in which their understandings of and taken-for-granted assumptions about teaching and learning were brought to the foreground of awareness and opened to variation. Some teachers, such as Frank (chapter 6) saw it as possible to teach in ways which had not been possible before in their teaching situations, while others, such as Kate (chapter 6) described themselves as having better ways of understanding their previously intuitive practices. Most felt more confident about interpreting events in their teaching and teaching situations, and some, like Kate (chapter 6) and Tim (chapter 8) described themselves as having more sophisticated understandings and becoming more professional as teachers.

These two orientations were related to experiencing change in teaching as *coming to experience teaching in a more student focused way* (cD), or experiencing change as *relating teaching more closely to student learning* (cC) if learning was seen as development or change in students’ understandings. These ways of experiencing change are focused towards understanding teaching and/or understanding learning and are open to being informed by formal theories. They were described only by teachers whose ways of experiencing teaching became, or continued to be student focused.

The third orientation was related to teachers’ *awareness of dissonance, dissatisfaction or a desire to change teaching*. This appeared to bring about a desire to teach differently. Like teachers’ experiences of generalisation in strategies, it was expressed by most teachers in the study but with different focuses.

Teachers who remained teacher focused sought to reduce dissatisfaction with aspects of their teaching or their students' reactions to teaching. Sometimes they were successful in their own terms. For example, James (chapters 7 and 8) focused on learning strategies to control class behaviour, learned some and felt more confident and in control of his temper. His dissatisfaction was reduced but he did not change his way of experiencing teaching.

Teachers who became or continued to be student focused sometimes sought to reduce dissonance or dissatisfaction by changing strategies or reorganising content, but did this with different intentions. Their intentions were to interpret and understand what was happening in situations in which they experienced dissonance, dissatisfaction or a desire to change. They reflected on what was happening and sought alternatives intended to bring about closer relations between their teaching and students' learning and better understandings of teaching and learning. Sam described this as looking at his teaching in the same way as he did his research (chapter 7, category cD), understanding the problem, identifying what he was trying to do and identify ways of determining whether his intentions were being achieved.

In situations of learning about teaching, these teachers experienced relevance structures related to their intentions to understand and became aware of dimensions of variation related to the critical aspects of student-focused ways of experiencing teaching. Both the critical experiences that these teachers described and the relevance structures that they experienced related to ways of experiencing learning as development or change in understandings – their own understandings or those of their students.

Formal theories of teaching and learning played an important role for most teachers who became or continued to be student focused, enabling them to develop frameworks for reflecting on and interpreting their teaching and their students' learning. Of the teachers who changed from teacher-focused to student-focused ways of experiencing teaching in a particular teaching situation, only Lissie did not participate in a formal course on teaching and learning. However, Lissie was already aware of student-focused ways of experiencing

teaching in her tutorials, wanted her lectures to be more student-focused and sought out ways of making this possible. Like Neil, but to a much less dramatic extent, she expanded her understanding of lecture situations beyond being ones that required her to present structured information.

A number of teachers remained teacher focused despite participating in the GCHETL course, where they had the opportunity to engage with formal theories and have particular critical experiences. These teachers tended to focus on literature which related to motivating students or controlling student behaviour, and they did not describe the experience of being a learner/observer. While they described experiences where they heard about strategies from the course teachers, visiting speakers, their peers or course readings, they did not reflect on how they had experienced the teaching strategies in the course from the learner's perspective. They appeared to experience learning in the course as acquiring strategies from others and then applying them if relevant to their own teaching contexts. This suggests consistency between their ways of experiencing student learning as acquiring and applying professional or disciplinary understandings and ways of experiencing their own learning about teaching as acquiring and applying teaching strategies.

In summary, teachers who remained teacher focused experienced different relevance structures for learning from those who became or continued to be student focused. Differences in the relevance structures that teachers experienced related to differences in their ways of experiencing change in teaching and to the patterns of prior orientations that they brought to situations for learning about teaching. Differences in their ways of experiencing change in teaching and in their orientations appear to relate to differences between focusing on understand teaching and learning and focusing on teaching practice. Teachers who remained teacher focused could be described as focused on learning to teach, whereas their student-focused colleagues were focused on learning to understand teaching and learning and become particular kinds of teachers.

Revisiting and extending the literature on teacher reflection and change

The patterns of difference in teachers' intentions and understandings of learning about teaching and consequent differences in the relevance structures that they experience in situations for learning about teaching have some similarities and some differences with the literatures on teacher development and change described in chapter 3. While my study was underpinned by a relational perspective on variation, learning and awareness (Marton and Booth, 1997), the literatures on teacher development, conceptual change and reflection are typically underpinned by different theoretical positions. In this section, I focus on ways in which the findings of this study could inform or extend current understandings of university teachers' learning, where learning is seen in terms of teacher development and change.

Informing conceptual change perspectives

Rational conceptual change perspectives assume that teachers need to become aware of alternatives to their present conceptions or assumptions, experience dissatisfaction or incongruities in relation to existing conceptions and see alternative conceptions as being more plausible and offering greater potential in practice (Strike and Posner, 1985; Ho, 2000). These factors are mainly consistent with this study's findings in the case of teachers whose ways of experiencing teaching did change, but appear to oversimplify the process of change. These models also assume that change is inherently resisted and has an endpoint and this did not entirely match the experiences of teachers in this study who became student focused.

Student-focused ways of experiencing teaching relate to awareness of a complex pattern of intertwined aspects. Teachers appeared to become aware of alternative ways of experiencing gradually as particular aspects were separated from the background, contrasted with aspects of the same dimension and then fused with aspects of other dimensions. Interestingly, the design of Ho's (2000) conceptual change program enabled teachers to experience variation in each of Samuelowicz and Bain's (1992) dimensions separately through the processes of analysing their own positions on these dimensions and

electing preferred positions. Separation and then fusion of new aspects does not appear to have been part of Ho's (2000) design intent, but the program nevertheless created a space of variation in which this was possible. Separation and then fusion may also relate to why Halliday and Soden's (1998) program, which focused on lecturers' understandings of learning, resulted in many of their participants changing their teaching practices. As Marton et al (2003) suggest, separation and then fusion of parts of alternative ways of experiencing may be more effective for learning than exposure to alternative ways of experiencing as wholes. This is an important difference between this study and those based on conceptual change perspectives.

Also, some teachers who became student-focused, like Lissie (chapter 6) or Tim (chapter 8) actually described little or no dissatisfaction per se, but rather a desire to change their teaching to make it more satisfying for themselves and their students, or to become more professional as a teacher. Change was sought rather than resisted, and the desire to increase satisfaction was not necessarily related to a desire to reduce dissatisfaction. Student learning and teacher-understanding focused ways of experiencing change in teaching were associated with change being seen as an ongoing process, rather than as something which ends when a problem is solved or source of dissatisfaction is removed. This is consistent with Åkerlind's (2002b) study of academics' conceptions of their own growth and development. In her four most inclusive conceptions out of six, development was seen as endless and related to seeking positive feelings as well as avoiding negative ones, whereas in the two least inclusive conceptions development had an endpoint and related to avoiding negative feelings. This suggests that programs aimed at changing teachers' ways of experiencing might focus in part on helping teachers to experience variation in positive feelings associated with understanding teaching and learning, and fostering a desire for teachers to develop as professionals.

The outcomes from my study are more consistent with recent advances in conceptual change research, which focus on the situatedness of conceptions and on gradual change (Vosniadou et al, 2001; Limon, 2001), rather than those which favour revolutionary

conceptual replacement. In my study, becoming aware of student-focused ways of experiencing teaching was seen as an expansion of awareness with a corresponding shift in the teacher's focus. There was evidence of some teachers, both teacher-focused and student-focused, making use of less complex ways of experiencing teaching in lectures than they did in tutorials, and indeed some teachers who were aware of student-focused ways of experiencing teaching reported teaching in teacher-focused ways when under stress (for example Barbara, chapter 6).

The focus on patterns of variation involving separation and contrast and then fusion of the critical aspects of ways of experiencing has the potential to inform evolutionary conceptual change research, although from a different ontological perspective. In particular, variation and learning theory might provide a more precise framework for analysing what is it is about alternative conceptions that learners need to experience in order for change in conceptions to be possible. This focus on *what* needs to be experienced might complement frameworks which focus on the social processes through which learners can potentially experience alternative ideas or ways of reasoning (see for example Mason, 2001).

Revisiting reflection

The outcomes of this study are consistent with the literature on the necessary role of informed, critical reflection in teachers' learning and change (see for example Brookfield, 1995; Light and Cox, 2001; Biggs, 2003). Teachers who became capable of experiencing teaching in student-focused ways reflected on teaching and learning in ways informed by formal theories of teaching and learning and their students' perspectives. However, as illustrated in chapters 7 and 8, reflection in itself does not necessarily relate to change. Reflection is always reflection on something and, as we have seen, the object of reflection was critical in distinguishing teachers whose ways of experiencing changed from those who remained teacher focused.

The sources that inform reflection are also important. Most teachers who became or continued to be student focused informed their reflection by using formal theories or

literature on teaching and learning. This provided alternative ways of interpreting what was happening in their teaching and their students' learning. The importance of alternative perspectives from formal theories and literature on teaching and learning is consistent with previous literature on teacher critical reflection (Brookfield, 1995) and action research (Gibbs, 1995). It is also consistent with Hativa's (2002) that lack of knowledge about teaching and learning may limit teachers' capacity to reflect in ways that result in teaching improvement. In my study, it was interesting to note the difference between Tim's early reflections on the need to make his lectures more rigorous and systematic, and his later views on the need to encourage students to notice the relevance to the subject of the experiences they had in the workplace (see chapter 8). The qualitative change in these reflections appears to have been influenced by several alternative sources, but formal theories of teaching and learning appear to have played a key role along with direct interactions with students and discussions with others.

Interestingly, teachers other than Tim almost never mentioned discussions with colleagues in their own departments as influences on their understandings of teaching. Discussions with colleagues which were seen as influences focused almost entirely on teaching strategies or innovations. Some teachers who became or continued to be student-focused also mentioned discussions in which they had sought to influence their colleagues to change curriculum or others' practices to improve students' learning. The other kinds of interactions with colleagues which were mentioned were those in which teachers complained about students or aspects of their teaching situations, or interactions in which a colleague attempted to discourage a teacher from trying something different.

Most descriptions of collegial discussions on teaching related to the context of the formal GCHETL course. Again, most peer discussions focused on strategies but there was a greater sense of mutual comparison of how these might work for teachers in practice. A number of teachers who had participated in the course described themselves as learning about strategies and how they worked from others, and then reflecting on how these strategies might work in their own teaching contexts.

These observations suggest that formal teaching development opportunities, including courses but also theoretically informed action research projects (Kember and McKay, 1996; Gibbs, 1995) might be critical for enabling teachers to experience the variation in perspectives which is necessary for critical reflection on teaching and learning. This study overall also points to the importance of teachers reflecting not just on their underlying assumptions, but in particular on assumptions which vary between teacher-focused and student-focused ways of experiencing teaching. Reflection on assumptions about learning seems particularly important.

Relating patterns of variation and change to the literature on teacher development and to teachers' conceptions of developing and changing as teachers

The four patterns described in chapter 8, combined with the individual teachers' ways of experiencing teaching over the three interviews (chapter 6) point to some different possible pathways for the development of university teachers' awareness over time. The evidence is suggestive, but not conclusive as the two year timeframe for the interviews is not long enough to afford interpretations of what might happen over extended timeframes.

It is important to emphasise that this study took a relational perspective, focusing on teachers' ways of experiencing teaching in particular teaching situations. Development in this sense is seen as an expansion of teachers' awareness corresponding to an expansion in how they are capable of acting in their teaching situations. As described in chapter 3, this perspective differs from a perspective which assumes sequential movement through a series of stable developmental stages. Some apparent changes in teachers' ways of experiencing their teaching over time might relate to changes in their perceptions of their teaching situations rather than changes in the most complex ways in which they were capable of experiencing teaching. The study also did not focus on how good the teachers were at enacting their ways of experiencing teaching or on whether they became better over time. As described in chapter 2, teachers can be good or poor at teaching in either teacher-

focused or student-focused ways (Trigwell, 2001), and development for a teacher can also relate to improvement in performance within a way of experiencing.

Teacher-focused patterns of change and development

Patterns 1 and 2 were teacher-focused but separated by the teachers' focus on change in teaching as change in content or strategies (pattern 1) or relating teaching to learning, seen as acquiring and applying (pattern 2). Pattern 1 was described by both experienced and inexperienced teachers, but in slightly different ways. The inexperienced teachers' initial descriptions related to self, content or strategy-focused stages of development (Kugel, 1993; Nyquist and Sprague, 1998), and to Åkerlind's (2003a) conception of teacher growth and development as growing confidence in one's abilities. Typically, a focus on organising the content preceded a focus on considering alternative strategies.

Some inexperienced teachers' descriptions continued to relate best to pattern 1 throughout all three interviews, but suggested a shift in intentions within this pattern. For example, by their third interviews, James and Shane no longer expressed intentions to become more comfortable with their teaching strategies or content. Instead, they focused on changing strategies with the intention of being and appearing innovative or impressive. Lee, who was much more experienced, expressed this focus in his second interview. This focus relates to some aspects of Åkerlind's (2003a) category of teacher growth and development as a change in teaching practice, in that the teachers are concerned with being effective as teachers, with student reactions and with feeling good about themselves. However it differs from Åkerlind's (2003a) category in that these teachers also sought to impress or appear innovative to others. Some of the teachers' concerns related to pattern 1 could perhaps be seen as typical of those of inexperienced teachers, but the concern to impress is suggestive of Fox's (1983) teachers who become stuck in a strategy-focused stage.

The only teacher in this pattern who did not become focused on strategies was Paula, who was also the most experienced. Paula was also concerned with being effective, student reactions and feeling good about herself (Åkerlind, 2003a), but her major intention for

change was to maintain or increase her own interest in the content she was teaching (chapter 7, category cA1). Her descriptions consistently suggested dissonance between her acts of teaching and the learning outcomes that she intended students to achieve. What she taught and her acts of teaching in the classroom did not typically engage with and respond to students' understandings and perspectives even though she was aware that these differed qualitatively from her own (chapter 5, category C). She was frustrated that most students lacked her interest in theory, were vocationally oriented or had discipline-related interests that she did not share.

Paula's primary focus was on her own interest in her discipline. Although she sought to relate her research interests to her teaching, in part to manage her workload, she perceived that students' interests and reactions made this difficult. Her descriptions of her responses to "good" students (those seen as theoretically and critically inclined) suggested she might be capable of teaching in more student-focused ways, but perceived that this was not afforded by her current teaching situation. While the evidence for this was inconclusive, if this were the case it might relate to her high level of frustration with teaching.

Pattern 2 was described by more experienced teachers and by James in his second interview. It is a somewhat paradoxical pattern, and constituting it did make me revisit whether the category of change in teaching as relating teaching to learning should be divided into two sub-categories, one student-learning focused and one student interaction, practice or motivation focused. However, I decided to retain it as a single category to reflect the *teachers' perceptions* that they were focusing on students' understanding.

Pattern 2 is most similar to Fox's (1983) building theory in which the teacher rather than the students are dictating the shape of the building and to Kugel's (1993) stage of focusing on the student, but on reactions rather than learning. This was a stable pattern for two teachers, Ramesh and Peter, who both had more than 10 years of teaching experience. Both were concerned about teaching and their students, and perceived themselves to have a strong responsibility to motivate students and help them to acquire and be able to apply

disciplinary or professional knowledge and skills. Problems of learning were seen as problems of lack of student effort or motivation. In order to move beyond this pattern, these teachers needed to become aware that students need to develop their own understandings and ways of applying. They also needed to discern and separate participation and activity per se from that which helps students to develop understanding. Pattern 2 could be seen as a developmental progression beyond focuses on content organisation and strategies, but also as a pattern in which experienced teachers may become stuck.

Another speculative point about pattern 2 seems worth making. Two of the teachers whose descriptions fitted with this pattern in at least one interview had previously engaged in formal, strategy-focused teacher training courses. Ellen also did a similar course prior to her first interview, but none of the teachers who became or continued to be student focused had completed a similar course. Although the evidence is limited, it could be inferred that courses of this type are related to teachers becoming aware of aspects of the most complex teacher-focused way of experiencing teaching (category C), but not becoming aware of variation in ways of experiencing learning.

Student-focused patterns of change and development

Patterns 3 and 4 are both student-focused and separated by the teachers' focus on change in teaching as relating teaching more closely to learning (pattern 3) or changing ways of experiencing teaching to become more student focused (pattern 4). The difference between these patterns is not in whether teachers are aware of variation between teacher-focused and student-focused ways of experiencing teaching but in whether this variation is experienced in relation to their awareness of teaching only (pattern 3), or in relation to their awareness of both teaching *and* change in their teaching (pattern 4) over a particular timeframe. This is illustrated in Tim's vignette, which suggests moves from pattern 1/2 in his first interview to pattern 4 in his second and 3 in his third.

In their first interviews, most of the inexperienced teachers whose ways of experiencing teaching became student-focused described their teaching and intentions for change in ways that fitted mostly with pattern 1. In subsequent interviews, these teachers' descriptions related to patterns 3 or 4, with pattern 4 being more common. Like the teachers who remained teacher-focused, these teachers also described feeling more confident and comfortable with teaching. Indeed they often seemed more confident and enthusiastic. While having no more years of teaching experience on average, these teachers experienced a different path of expansion in their understandings and practices from teachers who remained teacher focused.

Most often, the year over which the change in teachers' ways of experiencing occurred was one of enrolment in a formal course on teaching and learning. For most teachers, like Tim, this year came between their first and second interviews. For Sam, the course came between interviews 2 and 3 and his descriptions related to pattern 1 in his first two interviews and with pattern 4 in his third. The implication is that the course contributed to the changes that these teachers experienced, through contributing to the critical experiences and orientations described earlier in this chapter and in chapter 6. It is not possible to know the extent to which the course accelerated an expansion in teachers' awareness which would have happened anyway, or whether there was a causal link between the course and a change in the direction of some teachers' development. However, the study's findings of a change from teacher-focused to student-focused in some teachers' ways of experiencing teaching is consistent with Martin and Ramsden's (1992) study of university teachers undertaking a formal course, and with Wood's (2000) study of changes in student schoolteachers' understandings during a one year postgraduate course.

Four teachers, all with at least four years of prior teaching experience, gave descriptions which related to pattern 2 in earlier interviews and related to pattern 3 or 4 in later interviews. Kelly moved from pattern 2 to pattern 4, and Frank, Julianne and Lorraine from pattern 2 to pattern 3. All of these were teachers whose earlier interviews suggested awareness of some aspects of student-focused ways of experiencing teaching. All

participated in teaching development activities or completed some or all of a formal teaching and learning course.

Pattern 3 has some similarities with Kugel's (1993) stages of focusing on the student as active and independent, as teachers realise that students need to think in order to learn. It has more in common with Åkerlind's (2003a) conception of teacher growth and development as a change in outcomes for the learner, as change in teaching has the intention of improving students' learning.

Pattern 4, in which teachers are explicitly aware of change in teaching as changing their way of experiencing teaching to become more student focused, does not have a parallel in Åkerlind's (2003a) study of university teachers, or in the developmental "stage" studies. It has the most similarities with adult educators' conceptions of change in their teaching as changing the focus of attention from the teachers' acts or planning towards the students acts' or thinking (Larsson, 1986). This could be due to differences in the temporal frame of reference which teachers used when focusing on change between their current experience of teaching and that in the past (my study) or over their past history as a teacher (Larsson, 1986), compared with their current growth and development and that envisaged in the future (Åkerlind, 2003a). Alternatively, the teachers' explicit awareness of becoming more student-focused might be related to their participation in a formal course or induction sessions for new lecturers which included discussions of qualitative differences in approaches to teaching (Trigwell et al, 1994).

What does this say about teacher development and change over time?

On the basis of the outcomes presented in the previous chapters, and the experiences over time of the individual teachers, some tentative pathways of development and change in teachers' ways of experiencing teaching can be inferred. For teachers who remained teacher-focused, there seemed to be two possibilities. Some teachers might remain within pattern 1, focusing only on expanding their awareness of further teaching strategies or of current developments in the discipline that they are teaching. Others might move from

pattern 1 to pattern 2, expanding their awareness of how teaching relates to student motivation or participation in learning activities which are assumed to relate to learning, but not expanding their awareness of learning in itself. Teachers whose descriptions related to these categories could be seen as becoming more competent, but in the limited sense of competence as performance of particular patterns of skills and knowledge in particular situations (Bowden and Marton, 1998).

Teachers who became student-focused described changes which related to moves from pattern 1 or 2 to either pattern 3 or 4, representing an expanding awareness of ways of experiencing teaching, learning and change in teaching. Along with this expanding awareness came shifts in the focus and meaning of teaching for the teacher. These teachers could be seen as becoming competent professionals in the sense of changing the structure and meaning of their understanding of professional teaching (Bowden and Marton, 1998; Dall'Alba and Sandberg, 1996). As these teachers engaged in ongoing reflection on teaching and learning in ways informed by both formal theories and informal experience, they are more likely to be able to continue changing their teaching in changing future situations (Bowden and Marton, 1998).

In summary, change in teachers' ways of experiencing teaching and ways of experiencing change in teaching over time could be seen as relating to the general developmental pathways described in previous literature (Fox, 1983; Kugel, 1993; Nyquist and Sprague, 1998) but this study has offered more precise descriptions of the differences in teachers' focus which might relate to different pathways. These different pathways relate to different kinds of expansion in teachers' awareness – expansion in awareness of content or strategies within a way of experiencing or expansion related to becoming aware of the critical aspects of new ways of experiencing teaching. From a relational perspective, this expansion in awareness relates to how teachers are capable of teaching but not necessarily to how they do teach. As Paula's descriptions suggest, teachers might also be aware of different ways of experiencing teaching or change in teaching but act in less complex ways according to

their perceptions of their teaching and change situations (Prosser and Trigwell, 1999; Larsson, 1986).

How teachers' ways of experiencing teaching might change over extended time frames is an issue for future research. This research is likely to be important to pursue the question of whether teachers who change their ways of experiencing teaching from teacher focused to student focused continue to teach in student-focused ways over time, and the extent to which this relates to teachers' perceptions of changes in their teaching situations. This is likely to be particularly relevant in the current Australian climate of increasing class sizes and teacher workloads and increasing uses of technology in teaching. It will also be of interest to see whether any of the teachers who remained teacher-focused subsequently became student-focused and, if this is the case, how this might have occurred. One of my intentions for future research is to follow up the teachers interviewed for this study, where they can be located, eight to ten years after their initial interviews and then at intervals after that.

Further contributions of this study

In the process of addressing the focus questions for this study, some additional insights were gained. These make contributions to our understanding of university teachers' ways of experiencing teaching, and to ways of engaging in phenomenographic research on teaching and change in teaching.

In chapter 5, I described the six qualitatively different ways of experiencing teaching constituted in this study. These were constituted using the analytic framework for describing a way of experiencing teaching that I outlined in chapter 2. This framework represented a point of departure from previous research on university teachers' conceptions of teaching (Dall'Alba, 1991; Martin and Balla, 1991; Prosser et al, 1994) or orientations towards teaching (Samuelowicz and Bain, 1992, 2001). It enabled a more complex description of the internally related critical aspects of different ways of experiencing teaching than had

been the case in previous phenomenographic studies of conceptions, while maintaining a relational perspective. Each way of experiencing was seen as an internally related pattern of aspects which were simultaneously and focally in the teachers' awareness, such that becoming aware of a more complex way of experiencing teaching involved an expanding awareness and a shift in focus.

Unlike in studies of teachers' beliefs, the dimensions described in this study were dimensions of variation explicitly or implicitly described by the teachers. Each category did not relate to a different pattern of positions on a common set of belief dimensions (Samuelowicz and Bain, 1992, 2001), rather the number of dimensions of variation expanded with expansion in ways of experiencing teaching. For example in category A, the act of teaching is one of transmitting. Unlike in Samuelowicz and Bain's categories (1992, 2001), the direction of transmission is not a dimension of variation in this category. Teachers appear unaware of variation in this dimension, but are aware of variation in whether transmission has happened or not, and in the clarity of transmission. In category D, the act of teaching is more complex. The direction of interaction is a dimension of variation, but so too is the direction of learning (mutual as well as one-way), how the teacher finds out about and responds to students understandings and how different understandings are compared. Teachers are also aware of variation related to aspects of less complex categories, but these may be less in the foreground of awareness.

The six categories constituted have many similarities with previous studies of teachers' conceptions and orientations, but also some important differences that make new contributions to our understanding of teachers' ways of experiencing teaching.

Categories A and B are very similar to the two most teacher-focused or teaching-centred categories described across previous studies and summarised by Kember (1997). On the other hand, category C potentially clarifies some of the aspects of the active learning and expertise focused categories that Kember (1997) described as transitional. It is similar to Samuelowicz and Bain's (2001) teacher-centred category of providing and facilitating

understanding in that students are intended to be able to acquire and apply the understandings given by the teacher. It is dissimilar in including aspects of student activity and interaction, and in the teacher's intention that students will become competent in the knowledge and skills of the profession or discipline.

In my study, a focus on expertise or competence relates to a teacher-focused category (C) when becoming competent is seen as a matter of acquiring, applying and practicing external knowledge, and to student-focused categories when it is seen as students' development of their own professional or disciplinary understandings. Differences in teachers' ways of experiencing student learning in relation to teaching are critical for distinguishing teacher-focused from student-focused ways of experiencing teaching.

The least complex student-focused way of experiencing teaching (category D) was distinguished from the most complex teacher-focused way of experiencing by a pattern of critical aspects, including two have not been described in previous studies of teachers' conceptions and beliefs. These new aspects extend our understanding of the nature and complexity of student-focused ways of experiencing teaching. The aspect of mutual or two-way learning between teachers and students also appears in Åkerlind's (2003b) study of teachers' ways of experiencing being a teacher, where it also appears most strongly related to student-focused ways of experiencing. The emergence of the aspect of explicit awareness of variation in ways of experiencing teaching in my study is likely to relate to my focuses on the teachers' experience of variation, in particular as it relates to change in their ways of experiencing teaching. As discussed earlier, awareness of this aspect and dimension appears to be critical for teachers to become aware of student-focused ways of experiencing teaching.

In other respects, the patterns of critical aspects of the student-focused categories are similar to the descriptions of student-focused categories in other studies, although with some minor shifts in emphasis. While most aspects of these patterns have been described in previous studies of teachers' conceptions of or beliefs about teaching, they have not

previously been constituted phenomenographically as internally related aspects of the same phenomenon. As foreshadowed in chapter 2, these critical aspects are particularly similar to the aspects described by Martin et al (2000) in relation to their separately constituted objects of study and approach to teaching, but with the exception of the two additional aspects described above.

The aspect of awareness of variation in ways of experiencing teaching was in part discerned through focusing on variation in the structure and meaning of teaching as a whole. It was also in part discerned through the particular combination of classical and new phenomenography that was used in this study. Focusing on variation in ways of experiencing across the set of the transcripts brought some aspects to the foreground during the analysis, while focusing on the dimensions of variation described or implied in individual transcripts brought other aspects to the foreground. Iterating between these two perspectives using the analytic frameworks described in chapters 2 and 3 enabled more effective discernment, separation and fusion of the complementary patterns of critical aspects of different ways of experiencing teaching and change in teaching.

The focus on the critical aspects of particular ways of experiencing teaching and their related dimensions of variation has meant that this study contributes a more precise understanding of differences between different ways of experiencing, seen in terms of patterns of expanding teacher awareness. This complements and extends previous studies, particularly that of Martin et al (2000) and, from a different perspective, Samuelowicz and Bain (2001). It also means that academic development programs can be designed to more specifically focus on enabling teachers to become aware of the critical aspects of student-focused ways of experiencing teaching in relation to their own teaching situations.

Implications for academic development: Creating a space of variation for university teachers' learning

As I have described, the outcomes from this study indicate that different university teachers can use similar acts of learning, such as reflection, in the same situations of learning, but experience different relevance structures and become aware of different dimensions of variation. The theory of variation, learning and awareness (Marton and Booth, 1997; Marton et al, 2003) implies that development programs for university teachers need to create a space of variation (Runesson, 1999; Pong, 2000; Marton and Morris, 2002) in which dimensions related to the critical aspects of student-focused ways of experiencing teaching are explicitly opened to variation. As this variation needs to be experienced by teachers, the program situations also need to be experienced as having relevance structures which bring these dimensions to the foreground of teachers' awareness. This section looks at the pragmatic implications of my study, focusing on how academic developers can create particular patterns of variation and invariance which might enable more teachers to discern and focus on the critical aspects of student-focused ways of experiencing teaching.

The outcomes of this study lead to a caution against development programs that focus *only* on teaching strategies. Formal theories of teaching and learning which enable teachers to understand teaching and learning and critically consider alternatives are important for informing teachers' reflection (Brookfield, 1995) and developing teachers' ongoing capacity to adapt to changing situations (Ramsden, 1993). As described in chapters 7 and 8, teachers who focused only on changing their strategies with the intention of improving their own comfort, confidence or efficiency in teaching or their students' reactions remained teacher focused. These teachers' descriptions suggested that they experienced variation in strategies simultaneously with variation in the dimensions on which they were seeking improvement. They did not experience variation in ways of experiencing teaching, or ways of experiencing learning in relation to teaching, and as described previously, it was critical for teachers to come to experience variation in these dimensions.

Teaching development programs might need to create spaces of variation in which teaching strategies can be held invariant while variation is brought about on ways of experiencing teaching and student learning simultaneously with dimensions related to teacher comfort or student reactions. This approach is similar to that used by Pong (2000) in helping students to become aware of the critical aspects of desired conceptions of price in economics rather than focus on irrelevant dimensions of variation. Variation in strategies cannot be excluded, as becoming aware of student-focused ways of experiencing teaching means becoming aware of a pattern of intertwined complementary aspects which include strategies for finding out about and responding to students' understandings. As described previously the generalisation pattern of variation in teaching strategies was experienced by most teachers, whether teacher-focused or student-focused. It is also not desirable to exclude strategies as new teachers frequently express a desire to learn teaching strategies (Isaacs and Parker, 1997) and are unlikely to value or participate in programs that do not meet this perceived need. Teachers also need to experience generalisation in strategies for enacting student-focused ways of experiencing teaching in a wide range of different teaching situations so that they can discern their critical aspects and adapt them to their own teaching situations in their particular disciplinary contexts.

As teachers need to become simultaneously aware of variation in strategies and variation in dimensions related to other critical aspects of student-focused ways of experiencing teaching, this suggests the need for academic development activities that involve the experience of complex patterns of variation and invariance over time. At times holding content and strategies invariant may help teachers to discern and focus on the critical aspects of variation between student-focused and teacher-focused ways of experiencing teaching or learning. At other times simultaneously varying strategies and ways of experiencing learning might help teachers to fuse these aspects, as when teachers reflect on their experience of being learner/observers.

One approach, which I have used in the GCHETL that I teach, is to design learning experiences in ways that afford a focus on the critical dimensions of variation between

student-focused and teacher-focused ways of experiencing, while also affording learning about a new strategy or way of thinking about content organisation. The principle of achieving this is to create a situation where teachers can experience variation in different ways of experiencing the same new strategy or form of content organisation. Typically this is achieved by using pairs of quotes or vignettes from teachers which vary on the desired dimensions of variation while not explicitly bringing about variation on other dimensions. One example is to give participating teachers the quotes from Andy and Sam that are included in chapter 7. The quotes provide an example of two qualitatively different ways of experiencing the same specific strategy - giving students problems to do in a lecture. While the strategy is invariant between the two quotes, dimensions related to ways of experiencing teaching and learning are open to variation. Teachers are asked to compare what Sam and Andy are doing and to describe and compare their implied views of teaching and learning. The aim is to help teachers who are focused towards learning teaching strategies (category cB) to learn a new strategy – engaging students in solving problems as part of a lecture - but also to become aware of some dimensions of variation in ways of experiencing teaching and learning.

Teachers who do this activity almost always compare their teaching strategies with those used by Sam and Andy but also bring about variation between the two quotes. Most teachers comment on the variation between Sam's focus on students making connections and developing their understanding and Andy's focus on reinforcing or solving problems per se. Sam is perceived to see teaching as helping students to understand, make connections or develop their views of the subject, while Andy is perceived to see teaching as lecturing and there is often debate about whether he sees giving students problems as being part of teaching or simply a break from it. Variation is typically brought about on other relevant dimensions too. For example, Sam is typically seen as encouraging deep approaches and Andy surface approaches. Discussion of these patterns of variation is typically followed by asking teachers to propose descriptions equivalent to Sam and Andy for a strategy (or another strategy) which could be used by lecturers in their own discipline areas.

As a teacher's way of experiencing a learning situation is always a relation between the teacher and the situation, teachers doing this activity also bring about variation in relation to other aspects of their prior experience. One experienced, but very much teacher-focused, Biology teacher provided a particularly memorable example. She discerned that there was a difference between Sam and Andy but pursued this by asking a series of questions about differences in their discipline areas, class sizes and types, years of teaching experience and the level of the subject. When all of these were seen to be invariant between Sam and Andy, or varying in a way opposite to her assumption that Sam was more experienced, she focused on variation with her own experience. Despite questions and even urgings from her peers to notice differences between Sam's and Andy's intentions and descriptions of learning, she simply commented that what they were doing with their third-year classes would not work with her first years and that Sam wasn't getting much of a break. Clearly it is not possible to create situations in which variation is brought about only in dimensions related to the critical aspects of student-focused ways of experiencing teaching. To do this might require scenarios that were identical to each teacher's prior experience on every other dimension related to teaching or the teaching context (and quite possibly other dimensions as well). However, despite some notable exceptions, repeated comparison activities do appear to help many teachers to become aware of variation in dimensions related to critical aspects of student-focused ways of experiencing teaching. This is often apparent in teachers' written reflections on their learning, even when teachers are uncertain of what is possible for them in their teaching situations. In addition, activities of this kind help teachers to deepen their understandings of student-focused ways of experiencing teaching by experiencing variation in how these are manifested by other teachers in discipline areas similar to and different from their own. The overall approach is a refinement of previous phenomenographic approaches to academic development activities (Bowden, 1988; Prosser and Trigwell, 1997b) which are based on developing teachers' awareness of variation, but not in a way which focuses on patterns of variation and invariance in dimensions related to critical aspects.

This approach, and the findings of this study overall also imply that teachers do not need to first change their ways of experiencing and then learn new strategies for implementation and nor does the adoption of interactive or participatory strategies necessarily lead to new ways of experiencing. Rather, this study points to the need for a more complex interplay between enabling teachers to discern and separate aspects of student-focused ways of experiencing teaching from the background and then fuse them with other aspects such that they are discerned and focused on simultaneously. Becoming aware of strategies related to student-focused acts of teaching and becoming aware of student-focused ways of experiencing teaching overall are both part of a gradual pattern of expansion in teachers' awareness.

Summary and conclusion

Changing the way university teachers experience teaching and learning from teacher-focused to student-focused is important in the changing context of higher education. As described at the beginning of this thesis, student-focused ways of experiencing teaching enable teachers to help their students and themselves to learn for a changing and uncertain future (Bowden and Marton, 1998). This thesis has focused on the questions of how teachers become capable of experiencing teaching in student-focused ways, and why some teachers achieve this and others remain teacher-focused. The title of this thesis, *Variation and change in university teachers' ways of experiencing teaching*, is intended to imply this dual focus and the critical role of variation in bringing about learning and change.

This thesis contributes to our understanding of variation in teachers' ways of experiencing teaching through describing the patterns of complementary critical aspects that constitute each way of experiencing teaching, and the related dimensions of variation. It contributes to our understanding of change, or the lack of it, in teachers' ways of experiencing teaching in several inter-related ways. It describes the critical aspects of student-focused ways of experiencing. It then describes, using vignettes from individual teachers and in a set of relational themes, how becoming aware of variation related to these critical aspects relates

to teachers coming to experience teaching in student-focused ways. It then focuses on variation in teachers' ways of experiencing change in teaching. What teachers focus on and seek to achieve in changing their teaching relates to the orientations they have towards change situations and the relevance structures they experience in these situations.

Variation in teachers' ways of experiencing change in teaching relates to variation in the relevance structures that teachers experience in situations for learning about teaching. Teachers who focus only on changing their content or strategies with teacher-focused intentions do not discern and focus on the critical aspects of student-focused ways of experiencing teaching. Their ways of experiencing teaching remain teacher-focused. Teachers who experience change in teaching as becoming more student focused or as relating teaching to development or change in students' understandings are focused on understanding teaching and learning. These teachers become or continue to be aware of student-focused ways of experiencing teaching.

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