An investigation of the relationship between students' perceptions of workload and their approaches to learning at a regional polytechnic

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Laraine Giles

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ABSTRACT

This thesis investigates students' perceptions about their workload and their approaches to learning, employing a regional polytechnic as a case study. Data was collected using a mixed methods approach. The convenience sample consisted of 269 full-time undergraduate students who completed a questionnaire indicating whether they perceived the workload to be heavy or unmanageable at times, and those who did specified the reasons for their perceptions. All respondents also completed a modified ASSIST instrument to indicate the approach to learning they adopted. Analysis of the questionnaire data indicated that the majority of students perceived their workload to be heavy or unmanageable at times with the main reason given as too many assessments due around the same time. The issues raised from the data confirmed the results of other studies and pointed to a range of issues both internal and external to the institution. Thirty follow-up interviews were conducted to further investigate the issues raised in the questionnaire. A complex picture emerged from the interview data of a number of inter-related aspects in the teaching-learning environment that impacted on perceived workload and approach to learning, including assessment and overloaded curricula, motivation, time management problems resulting from part-time jobs or family commitments, and lecturer support. Trends or patterns signalled by the data provided an important first step to assist in planning changes in the teaching-learning environment at the regional polytechnic. The main recommendations were centred on a long term, collaborative action-research project to be set up within a programme, to review curricula, create a more stimulating and responsive teaching-learning environment, foster learning communities, and ensure a consistent approach to developing generic skills. The aim of the recommendations was to ensure students are motivated to learn, engaged, and have the skills and information needed to be effective learners, which in turn has the potential to change perception of workload and impact on approach to learning.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER ONE
Introduction

Background and context for study

Enormous changes have occurred in tertiary education worldwide in the last two decades, including changes in curricula and a modular system that was introduced to provide opportunities to 'mix and match' subjects. Open entry was also introduced during this time in a number of countries. As a result the range of students enrolling in tertiary institutions became increasingly diverse, with different cultures and languages, leading to differences in understanding and expectations. A further issue was the growing concern about increasing numbers of failing students and poor retention rates (Bryson & Hand, 2007).

Moreover, there has been a movement toward knowledge-based economies in developed countries, where the value of a company is in the knowledge of the people who work for it, and the ability of that company to do innovative and creative things (O'Rourke & Barnett, 2008). This movement requires students to develop more than a narrow set of subject specific knowledge. Students are required to become critical thinkers and problem solvers. They need to develop communication and teamwork skills, be able to work beyond the routine, and live productively in a rapidly changing world. Skills for life-long and independent learning, such as information literacy and metacognitive skills are also necessary (Papastergiou, 2006). These changes have culminated in concern for the quality and standard of learning and teaching in higher education (Hounsell & Entwistle, 2005; Lawless, 2000). In addition, governments worldwide have become more anxious about how public funds are being spent in the tertiary sector (Brew, 1995).

New Zealand context

In New Zealand a review of funding for tertiary institutions began in 2004 (Thompson, 2005). Prior to this, the emphasis had been on increasing participation in tertiary education and institutions were funded by the number of

students enrolled, the Equivalent Full time Student (EFTS) system (Cullen, 2006). The emphasis changed to linking funding to the quality of institutional performance in teaching and learning, and a focus on the needs of students. The changes were first signalled in the *Statement of Tertiary Education Priorities* (STEP) 2005-2007. In addition, the *Tertiary Education Strategy* (TES) 2002-2007 called for quality learning outcomes for a diverse range of students and required tertiary institutions to focus on ensuring that students succeeded. There was also an expectation of innovation, excellence and flexibility in delivery and teaching (Ministry of Education, 2002).

The new funding structure was implemented in 2008. The STEP document (2008-2010) stated that success would no longer be measured by the numbers of students enrolled, but by progress in lifting quality. New requirements were designed to ensure that tertiary education organisations identify, plan for, and meet the needs of students and that teaching be informed by applied research. In this new environment tertiary education organisations were expected to have the necessary systems and structures in place to ensure that individuals were motivated to learn, engaged, and had the skills and information needed to be effective students (Ministry of Education, 2007). The Ministry of Education also set up *Ako Aotearoa National Centre for Tertiary Teaching Excellence,* which Thompson (2005) claims has the general aim of accelerating the culture shift towards more effective teaching and student focused learning.

Topic choice

As a result of these developments, a decision was made to be proactive at the regional polytechnic in which this study was conducted, and a review of learning and teaching began in 2005. A number of meetings were held to discuss where systems and practices could be improved. The outcome of this was the development of a strategic plan which aimed to demonstrate leadership and innovation in learning and teaching. This plan involved developing a culture of innovation and creativity in teaching and learning practices, and ensuring that student-centred practices characterised all facets of work ("Strategic Plan 2005-

2009," 2005). An overall aim and motivation for this study was to contribute to this development and improvement process by focusing the research on a specific aspect of the teaching and learning environment that influences quality learning at the polytechnic.

The teaching-learning environment is a complex system, and promoting quality, student-centred learning, involves so many variables (Kember & Leung, 1998). McCune (2003) refers to the rich complex interplay of influences which may impact on the quality of students' learning in higher education and that no single research project could hope to fully capture this complexity. There are no easy answers to improving quality and this is summed up by Entwistle (2000); "it is difficult enough to conceptualise all the influences on the processes of teaching and learning, let alone to present them in ways which suggest practical ways of improving the quality and effectiveness of learning outcomes" (p.8).

Several aspects were considered for this study, such as professional development for academic staff and learning assistance for students, before the decision was made to focus on student workload and the relationship with approach to learning. There is support in the literature for the notion that it is possible to improve the quality of learning by reorganizing the teaching-learning environment (Lindblom-Ylanne & Lonka, 1999). In addition, Prebble et al. (2005) argued that there is greater scope for affecting change and improvement in institutional performance, including provision for quality learning, by concentrating on factors that are within the power of institutions to influence. The literature supports the notion that workload and students' approaches to learning are factors in the teaching-learning environment that can possibly be influenced (e.g. Lizzio, Wilson & Simons, 2002).

A report commissioned by the Ministry of Education in 2005 entitled *Impact of student support services and academic development programmes on student outcomes in undergraduate tertiary study*, which involved a best evidence synthesis of literature, contained the proposition that students should experience a manageable workload (Prebble et al., 2005). Moreover, in a review of studies asking lecturers in tertiary institutions what they considered to be the important

goals of their teaching, Ramsden (2003) found overwhelmingly a common concern was the need to help students develop a deep approach to learning.

According to Lizzio et al. (2002), their research shows that heavy workload is an aspect of the teaching-learning environment that has consistently been shown to drive students towards a surface approach to learning. They conclude that change in this aspect of the learning environment would appear to offer a greater likelihood of initial success than any other area. In addition, they believe that early successful improvements in one domain of the learning environment could then create organisational momentum and staff motivation for continued efforts with more challenging tasks.

Kember (2004) recommends open evaluation systems which gather feedback on a wide array of curriculum variables. Hounsell and Entwistle (2005) agree that an up-to-date picture of what is happening in the teaching-learning environment is necessary to identify ways of strengthening provision, which will make a significant, positive impact on the quality of student learning. This approach is also endorsed by Brookfield (1998) who argues that teachers should continually monitor how the learning and teaching is experienced by students. He states that "an awareness of what's happening to students in my classroom is the first order, framing knowledge I need to teach well. Without this knowledge all the pedagogic skill in the world is irrelevant" (p.20). Furthermore, Yorke (2004, p.30) states that it is the student experience which needs to be 'got right' in any move to enhance persistence and progression.

It would seem a useful first step therefore, to gather information on students' perceptions of their workload and any effect this may have on their approaches to learning. Moreover, given the recent changes to funding in the tertiary sector and the existing research endorsing the need to understand how students are experiencing the teaching-learning environment, it was considered timely to investigate these issues.

It was also anticipated that the findings of this research would add to the body of knowledge which informs an innovative, quality teaching and learning environment at the regional polytechnic. It is necessary to consider innovations

specific to this context, given the situated nature of practice, rather than generalised notions of 'what works'. Haggis (2003) criticises what she terms "the retreat into the illusory certainty of 'scientist' approaches" (p.101) adopted by policy makers and funding agencies in the higher education sector, which she argues are counterproductive.

The aims of the project were to:

- explore reasons influencing students' perceptions of workload issues in the teaching-learning environment of the regional polytechnic;
- identify the approaches students claimed to be taking in learning and studying;
- explore the relationship between these factors and;
- consider the effect of students' perceived workload on quality learning at the polytechnic.

These aims were reflected in the research questions guiding this study.

Research Questions

The following research questions were designed to explore the two aspects of the teaching-learning environment, workload and approach to learning, central to this study. The aim was to discover if there was a perceived problem, and if there was, students' views of what influenced this problem, how widespread the problem was, the effects, and any relationship between the two aspects.

1. Is there a perceived problem with workload?
2. What reasons do students give for their perceptions that their workload is heavy or unmanageable at times?
3. What are the effects of a perceived heavy or unmanageable workload and how do students respond to these?
4. What approaches to learning are students reporting and how are these related to workload?

Definition of terms

Entwistle, McCune and Hounsell (2002) use the term *teaching-learning environment* to cover a broad range of potential influences on students' learning which can be divided into three levels: the social, cultural and political context within which higher education operates, the institutional and departmental contexts, and the context of particular programmes. The latter is the teaching-learning environment that this study will focus on.

Perception

According to Anthony (2000) "perceptions are not stable entities within cognitive structures, but are dynamic and context dependent" (p.4). Research into student learning in the past 30 years has concentrated on how students perceive reality (Norton & Crowley, 1995) and this is the approach adopted in this study, where the research focuses on students' perception of their workload rather than an objective measurement of hours spent studying.

The literature provides strong support for the notion that it is the students' perception of the learning environment which should be taken into account, where perception is regarded as a relation between students and their context (Byrne, Flood & Willis, 2002; Laurillard, 1997). Constructivist psychology and models such as situated learning recognise that students are likely to have individual, even unique, experiences of learning, which will vary according to different contexts and situations (Haggis, 2004; Yorke, 2006). Entwistle (1991) argues that it is a student's perceptions of the learning environment that influence how a student learns, not necessarily the context in itself.

McCune (2003) concurs that the influence of the teaching-learning environment on students' learning is mediated through each individual student's perception of that environment. It is also generally agreed that it is the students' perceptions of the teaching and assessment procedures, rather than the methods themselves, that show the strongest relationships with the learning of the individual student (Entwistle, McCune & Hounsell, 2003; Argyris & Schon, 1978 cited in Kember, 2004; Ramsden, 1992).

Workload

Workload in this study refers to the out of class time that students spend on private study. This may involve tasks specified in lectures such as course reading, practice exercises, and assessments. It may also include tasks not directly assigned such as review and revision, background reading, and general preparation for class.

The focus is on perceived workload and according to the literature there are a range of issues that may influence this including a curriculum that attempts to cover too much for the time frame, over assessment, and a lack of coordination between papers as to the volume and timing of assessments. In addition, workload pressures may be experienced when students lack motivation or when assumptions are made that they have skills and knowledge they do not in fact possess. Students may also experience pressures in managing workload due to poor time management, or calls on their independent study time from family or part-time work commitments.

The manifestation of a perceived heavy or unmanageable workload is a feeling in the form of pressure or negative stress, the consequences of which may involve the adoption of inefficient learning strategies, procrastination, or a desire to withdraw from a course or programme of study (Chalmers & Fuller, 1996; Hatcher, Prus, Englehard & Farmer, 1991; Kember, 2004; Mullins, Quintrell & Hancock, 1995; Zepke, Leach & Prebble, 2005). Perceived workload is a complex concept with varying degrees of heaviness or manageability of perceived workload which could be represented on a continuum from the perception that the levels of pressure and stress are acceptable to the perception that the workload is totally unmanageable. The length of time students perceive they are under pressure could also be represented on a continuum from 0% to 100% of the time in a semester.

In addition, students who perceive their workload to be heavy or unmanageable could have a range of meanings in mind. They may feel that they have a lot to do in a short time, or may be thinking of the difficulty of tasks. These

perceptions may also be the result of students not having the requisite skills to complete assigned tasks, or the coping skills to manage the workload.

Approaches to learning

Three approaches to learning are considered in this study, which are not regarded as mutually exclusive. A *deep approach* to learning, is characterized by students aiming to understand what they are learning (Prosser, Ramsden, Trigwell & Martin, 2003); as opposed to a *surface approach* involving memorization and reproduction of largely unrelated facts and ideas for assessment purposes (Chambers, 1992; Ramsden, 1992). It is also possible for students to adopt a *strategic approach* to learning, which is characterized by strong attention to study organization, time management, a desire to excel in a course by understanding what is expected, and doing what is needed to achieve good marks (Kreber, 2003). Students may use both deep and surface approaches to learning as deemed appropriate. Studies have shown that there is a substantial variation between students within the same class in the learning goals they adopt, levels of motivation, the way they perceive the amount of work required and the nature of assessment, and this has been linked to variation in approaches to learning (Beaty, Gibbs & Morgan, 1997; Mullins et al., 1995; Prosser & Trigwell, 1999).

Quality teaching and learning

Promoting quality learning is the overarching aim of this study. Quality is a difficult term to define. It can be related to how learning outcomes are pursued and whether or not those outcomes are achieved. The concept can also be related to how students go about learning. In this study a deep approach to learning is regarded as a proxy for quality learning where students seek to understand what they are learning, think critically, and are able to apply what they have learned.

According to McInnis, James and Hartley (2000) effective learning is less likely to occur when students perceive themselves as overloaded with work. Quality learning has been linked to the development of metacognitive skills, reflective learning, and motivation (Case & Gunstone, 2002; Argyris & Schon, 1978

cited in Kember, 2004). It is also generally agreed that a student-centred approach is an essential element of quality teaching and learning but there is considerable disagreement about what student-centred learning actually is.

To be truly student-centred, the students should be involved in the development of the learning process rather than at the receiving end of the lecturer's approach, and the emphasis should be on a deep approach, according to Lea, Stephenson and Troy (2003). However, according to Malcolm and Zukas (2001) the student-centred approach is based on psychology with no recognition of the student as a social being. They state that "in psychology, history and culture are removed from the scientific equation in order to discover universal truths that apply to all individuals" (p.38). There is continuing debate regarding the most effective way to promote quality learning and the teaching methods required to achieve this. A number of approaches to teaching are advocated but each has limitations.

The traditional didactic approach to teaching, one frequently used by the polytechnic lecturers in this study, involves lectures and tutorials reliant on the transmission approach, where students are viewed as passive receiver's of knowledge with no control over the objectives, content and pace of learning (Papastergiou, 2006). The transmission approach can however be useful in initial instruction for one element of quality learning, the establishment of a knowledge base required in some academic disciplines (Neumann, 2001).

A community of learners, underpinned by the social constructivist approach to learning and teaching (Hodgkinson-Williams, Slay & Sieborger, 2008), where, according to Stefani, Clarke and Littlejohn (2000), students and lecturers feel respected and connected to one another, is an approach endorsed by a growing number of researchers. This embraces constructivist principles emphasising active and personal construction of knowledge by the student, authentic, contextual learning, the development of metacognitive skills, and collaborative learning (Papastergiou, 2006). The social environment is said to provide students with "a resource of other students, each with their own knowledge, experience and

expertise, with whom to share ideas, negotiate meaning and work towards shared understandings" (Hodgkinson-Williams et al., 2008, p.435).

Although intuitively appealing and appearing to offer an effective approach to promoting quality learning, the social constructivist approach is not easily implemented in practice. Brophy (2006) states that research on the social constructivist approach to teaching has yielded more questions than answers concerning when it is appropriate to use and how to effectively implement this approach. He claims that social constructivist educators concentrate on learning rather than teaching, often confining themselves to statements of principles without systematic assessment of outcomes. Nuthall (2004), who studied this approach extensively, found that 25% of what students retain from instruction is acquired from interaction with peers, and much of this is distorted or incorrect.

Therefore, although quality learning is the goal it is not clear how this is best achieved. It is widely accepted that a student's approach to learning is a critical factor in the quality of learning (Ramsden, 1988). Many researchers view quality learning as synonymous with a deep approach (Papastergiou, 2006) involving active interest and engagement, focusing on main ideas or principles, and understanding (Entwistle, 1988; McCune & Entwistle, 2000), which is the position taken in this research. It is important to take account of student needs and expectations, and researching student perceptions is an important step in meeting their needs (Lea et al., 2003).

Researcher bias

I have taught compulsory, business courses at degree level at a New Zealand tertiary institution for the past ten years. During this time I have interacted with many students who have complained about the workload being heavy or unmanageable at times. I approach this study with the belief that workload is an issue for degree students and I have a great deal of empathy with students who are juggling study, part-time jobs and family responsibilities. I also struggle with having to assess too many learning outcomes for the given time frame in my courses and experience frustration with the lack of time to consolidate what I am

teaching. I believe that students often have legitimate concerns about the effect of heavy workload on their learning. I acknowledge that this personal belief may be a possible source of bias in relation to interpreting the interview data.

Conceptual framework

The focus of this research was to study two aspects of the teaching-learning environment: students' perceptions of their workload; and their approaches to learning. The long-term aspirational aim was to contribute to the provision of quality, student-centred learning at the regional polytechnic, leading to improvements in student achievement, satisfaction, and retention.

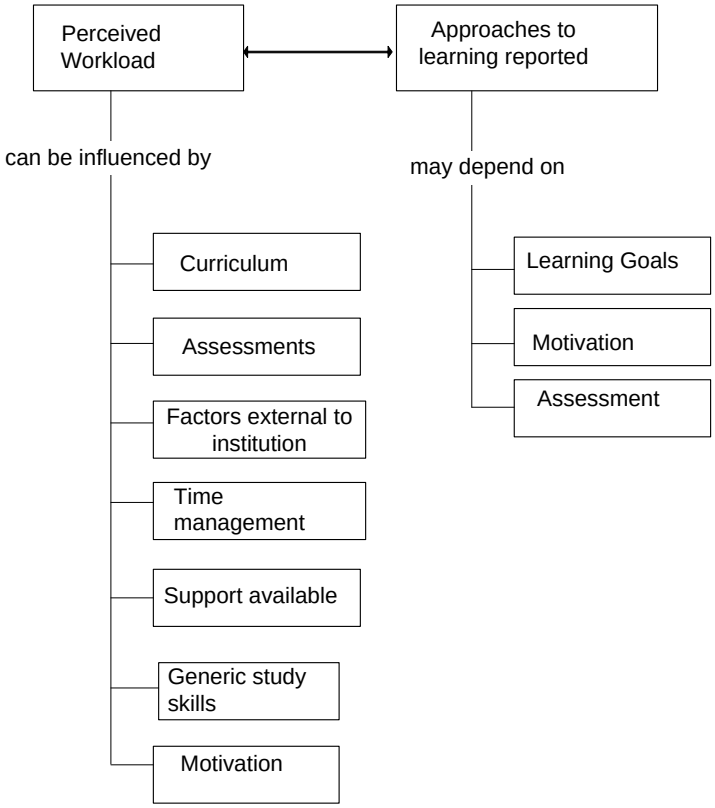

Figure 1. *Conceptual Framework*

The concept diagram shown in Figure 1 incorporates the influences on perceived workload and approaches to learning, compiled after a preliminary review of the literature. The diagram also illustrates initial thoughts about how the influences on students' perception of workload and approaches to learning are related, which may be reciprocal. The aspects of the teaching-learning

environment that may influence students' perceptions of their workload and the dimensions that may impact on approach to learning are listed in no particular order. The initial thought was that motivation probably plays a role in both perceived workload and approach to learning but it was not evident how these were connected. The study was designed to explore these dimensions and the relationship between these two concepts.

Organisation of this thesis

The thesis is presented in six chapters. In this chapter background information provided an insight into the changes over the past two decades that have influenced higher education. The national context of the study was outlined indicating the educational policy issues surrounding the current emphasis on the quality of higher education and how this related to the context of the institution where the study was conducted. Justification for the study was discussed and the aims of the research were briefly outlined. Key terms of the research were defined, and the conceptual framework and research questions presented.

The literature review in Chapter Two provides justification for the focus on students' perceptions rather than some objective measurement of workload. The reasons found in previous studies that influence students' perceptions of a heavy or unmanageable workload, and related assessment and curriculum issues, are discussed plus the effects on learning. This chapter also discusses phenomenography, the conceptual basis for approaches to learning, and a critique of this approach. The development of the three approaches to learning included in the study is discussed and a critique of the concept included. The characteristics of the three approaches are explored along with influences on students' approaches to learning and the effect on learning outcomes. The chapter concludes by reviewing the literature concerning the relationship between perception of workload and approach to learning.

Chapter Three explains why the pragmatic paradigm was chosen to underpin this research and justifies the mixed methods approach, combining quantitative and qualitative data, and the use of a case study. The data collection

methods are also justified and the limitations of the data collection instruments discussed. The procedures are outlined, along with limitations of the research and ethical considerations.

The data gathered from the questionnaire and interviews are reviewed and analysed systematically in Chapter Four in relation to the four research questions. The quantitative and qualitative data are integrated in keeping with the mixed methods approach. Further data is also presented that emerged from the interviews, not directly related to the research questions.

The results of the study are discussed in Chapter Five. The discussion centres on four significant themes and compares these to findings from the literature. A more complex picture emerges in comparison to the original conceptual framework and a revised concept map is presented.

The final chapter provides four recommendations on changes in the teaching-learning environment at the regional polytechnic as a result of the study, to improve students' perceptions of their workload and influence deeper approaches to learning. Future research is considered and finally the research is summed up in the overall conclusion of the study.

CHAPTER TWO
Literature Review

Introduction

This chapter explores the literature related to the two main areas of the study; perceived workload and approach to learning. The first part considers the methodologies employed by earlier workload studies and the influences on students' perceptions of workload signaled in other research. Workload issues related to assessment and curriculum are discussed followed by a review of the literature covering the effects of a perceived heavy or unmanageable workload. The second part of the chapter begins with an outline of phenomenography as a theory of the 'approach to learning' concept, and a critique of this theory. This is followed by a discussion of how the concept of 'approach to learning' was developed and a critique of the concept. The characteristics of each approach are described, plus influences on approaches to learning found in earlier studies. Consideration is also given to the relationship between approaches and outcomes, and workload and approaches to learning, revealed in the literature.

Workload

Methodologies associated with student workload studies

According to Gough and Monday (1979) student workload studies go back as far as the 1920s but the literature consulted for this study involved studies dated from the 1980s to the present. The research reviewed involved a number of different approaches, one of which was to attempt to quantify the number of hours students spent studying using diaries and work logs, often retrospectively. These studies generally considered the total time spent on out of class activities (Parer & Benson, 1989), although Marsh (2001), felt it was more important to distinguish between good hours (hours spent on work that is deemed to be valuable by students) and bad hours, rather than just total hours worked. Lawless (2000) on the other hand asked participants to focus on the length of time taken to complete

specific activities to gain more accurate estimates, rather than considering workload in general.

A student diary study carried out by Kember, Jamieson, Pomfret and Wong (1995) found that the diaries appeared to produce accurate data on the amount of work the students in their study undertook but warned that due to the small sample for the study, which was one class in their institution, any conclusions must be viewed as tentative. Lawless (2000) attempted to improve on earlier diary studies by taking a large random sample of five courses.

Many of the studies investigated considered 'workload' and 'hours spent in activities of learning' as synonymous (Greenwald & Gillmore, 1997; Weerakoon, 2003). In addition, studies were located that compared hours spent studying to learning outcomes or achievement (Schuman, Walsh, Olson & Etheridge, 1985; van den Hurk, Wolfhagen, Dolmans & van der Vieuten, 1998).

However, some researchers (Chambers, 1992; Weerakoon, 2003) caution that researching how long students spend studying is difficult since retrospective assessments of time spent, or workload logs, are not reliable. Not only is it difficult to substantiate claims of a heavy or unmanageable workload, but there are problems disentangling the amount of work, attitudes towards it, and ability to cope. Gough and Monday (1979) agree that "conceptual and methodological problems thwart the precision measurement of student workload" (p.45), as this goes well beyond the simple quantitative aspects of how much time a student spends in study. I agree that trying to measure time spent studying is not a good indicator of workload as it is dependent on so many factors, and it is also difficult for already overloaded students to find time to complete diaries or logs, which is another reason why this approach was rejected in this study.

Kember (2004) argues that workload should not be interpreted by some objective measure such as looking at hours spent in independent study, but rather by students' perception of their workload (Ramsden, 1992). A quantitative study of factors related to student burnout indicated this when it was found that the subjective feeling of having an unmanageable workload predicted emotional exhaustion, rather than objective measures of workload (Jacobs & Dodd, 2003).

Kember (2004) concluded from his study that perceptions of workload are not synonymous with time spent studying, but can be weakly influenced by them.

A body of research was located evaluating students' perceptions of the quality of the teaching learning environment, which incorporated student workload as one aspect. It was not always clear though what was being referred to in terms of workload, as the construct did not usually include a definition or characterization (Kember, 2004). This research mostly involved instruments, which included scales or items referring to perceptions of workload, such as the Course Experience Questionnaire and the Revised Approaches to Study Inventory, using Likert scales (Dixon, Scott & Dixon, 2006; Hatcher et al., 1991; Lizzio et al., 2002; McInnis, James & McNaught, 1995). Perceived workload has been shown to be a complex construct which can be influenced by a wide range of inter-related aspects of teaching and learning (Kember et al., 1995; Kember & Leung, 2006).

Investigation of students' perceptions was the stance adopted in this study as it was felt that it is *perceived* workload that influences students' feelings and attitudes regarding the workload and their approach to study. The difficulties students experience when they perceive their workload to be heavy or unmanageable have been shown to be inextricably linked to several dimensions (Mullins et al., 1995) and these are discussed next.

Influences on students' perceptions of workload

The literature details a wide range of influences on perceived workload and a range of responses to these influences. Kember and Leung (2006) stated that the students in their study could be placed on a continuum comprising students who do a lot of high-quality work without complaint at one end, and students who do minimal, superficial work, while complaining about being overworked at the other end. It would also be possible to find students who produce high-quality work but also complain about their workload. The reasons students perceive their workload to be heavy or unmanageable at times can be related to issues both within the institution and to individual student problems, both internal and external to the institution (Chambers, 1992).

Mullins et al. (1995) found that workload was the study-related area that was most likely to cause problems for students, and that these problem persisted throughout their time at university. Lecturers have a major influence on perception of workload, in particular where lecturers assume more prior knowledge or experience on the part of the student than the student in fact possesses (Hassall & Joyce, 2001). Lecturers assuming that students possess the necessary study skills for success in higher education, or will develop effective skills as they gain more experience (Chalmers & Fuller, 1996), can also influence perceived workload. Another common assumption, according to Lea and Street (2000), is that academic literacy is a set of general skills that students have to learn, which are then transferable to other contexts. This is generally the view expressed in the institution where this study was carried out.

Vardi (2002) suggests that most students do not come to higher education fully equipped with the wide range of learning strategies and skills necessary for learning in specific disciplines. She argues that students have difficulties working out what is required for written work at this level, even who those have perceived of themselves as good writers prior to entry into higher education. This mirrors my experience in working with students.

Moreover, Vardi (2002) claims that academic literacy practices, reading and writing within disciplines, constitute central processes through which students learn new subjects and develop their knowledge about new areas of study, and should take account of the cultural and contextual component of writing and reading practices. Francis and Hallam (2000) for example, looked at the reading processes of a group of postgraduate students and found these students were unable to recognise or deal with specific features of text connected with genre, particularly those related to recommended readings in a course. They agree that students need to be inducted into the practices of different academic subjects. They state that the implication of such a view is that “awareness of genre should be cultivated directly in relation to the texts used within the practices of teaching and learning, and that prior experiences may not be suitable for new texts and new

courses" (p.295). Failure on the part of lecturers to recognise this may add to the cognitive load, which in turn affects perception of workload.

A number of other issues related to the influence of lecturers on perceived workload include lecturers not taking into account what is expected by other lecturers in a programme (Hassall & Joyce, 2001). The approaches used by lecturers; their enthusiasm, and knowledge of content and pedagogical knowledge have also been linked to student's perception of their workload (Kolari, Savander-Ranne & Viskari, 2006). Hatcher, Prus, Englehard and Farmer (1991) also found that non-availability of support from lecturers influenced perceived workload.

Students perceptions of workload can be influenced by their relationships with lecturers (Kember, 2004), as this adds to the pressure students experience. Bryson and Hand (2007) found that lecturer-student relationships were an important factor in student engagement. They also found that inconsistent treatment and approach by the lecturers created unnecessary uncertainty in the students' minds and weakened their trust in lecturers. Students in their study were also upset by inconsistent, rude or uncommunicative behaviour on the part of lecturers. Students felt powerless to complain and suspected they would be punished by more biased marking.

There are a number of influences on perceived workload that can be attributed to the individual. Kember and Ng (1996) state that perceived heavy workload should not be interpreted purely as a measure of the burden imposed by the curriculum and assessment regime but may result from inappropriate study methods, or be affected by students feelings about the burden of the workload (Kolari et al., 2006). In addition, those who want to learn and gain good grades put extra pressure on themselves and spend a longer time studying than those who simply want to pass the course (Kolari et al., 2006; Lawless, 2000; McInnis et al., 1995).

Students' lack of prior knowledge of a subject (McInnis et al., 1995) can influence perceived workload. This was shown in a study carried out by Kolari, Savander-Ranne and Viskari (2006) who found that students who claimed that the workload was too heavy or unmanageable did not have the prerequisite knowledge

from previous courses at hand. The perceived difficulty of a subject can also influence workload perceptions (Kember, 2004; Kember & Ng, 1996; Kolari et al., 2006). This may be related to students' problems dealing with the course material (McInnis et al., 1995) such as difficulty in using a range of reference material and keeping track of what they are looking for, and trying to hold in mind the purpose of their enquiries (Chambers, 1992). Kember (2004) argues that even if first year university courses are basic general courses, a multitude of conflicting topics, or lecturers with conflicting expectations, can mean that collectively they are perceived as difficult.

A number of research findings suggested that lecturers' workload expectations were poorly matched with the time students required to study (Chambers, 1992). Killen's (1994) study found a mis-match between the expectations of lecturers and students concerning what was a reasonable workload for students outside of formal classes, with students studying for just over half the time that lecturers expected them to devote to study.

Students have to cope with a range of competing desires and obligations such as learning, earning, caring, and socialising. This can affect perceived workload, result in difficulties managing time, and lead to 'satisficing' where students choose to settle for 'good enough' achievement (Yorke, 2006, p.4). McInnis et al. (2000) concluded in their report, analysing the perceptions and behaviours of first year undergraduate students in seven Australian universities, that many students had a very uncertain start at university due, in part, to unrealistic expectations of workload and time involved in university study. They stated that if students do not foresee this reasonably accurately, they are likely to be in trouble in terms of time management.

Case and Gunstone (2003) looked at time management in their study and referred to students' perceptions of being in control of time and perceptions of being out of control of time. The students in their study found that despite their best efforts at time management they could not keep up with the time demands of the course and were not succeeding in class tests. They stated that "a time pressured environment seemed to raise the issue of time to such prominence in

students' awareness they did not feel able to take the risk of investing time in understanding" (p.66).

Chambers (1992) sees the issue of heavy or unmanageable workload as a catch-all for a number of stresses students feel such as illness and family difficulties. Hatcher et al. (1991) found in their study of out-of-class circumstances and activities, which were perceived to increase a students' workload, many problems external to the institution including study environment problems, and interruptions while studying. Studies show that students need to have a balance between study time and life outside the institution because when things are out of balance students tend to regard their workload as excessively heavy (Kolari et al., 2006).

Hassall and Joyce (2001) cite non-academic priorities exceeding academic ones as a reason for perception of a heavy or unmanageable workload, especially where students have to take on part-time work to support their study. Barwuah, Green and Lawson (1997) found that for many older students part-time jobs could be almost full-time and that students working long and often unsocial hours were more likely to fall behind and withdraw. An Australian study showed that more than one-third of full-time students were working in paid employment more than 15 hours per week, which put extra strain on students coping with study workload (Cope & Staehr, 2005). McInnis et al. (1995) stated that in some cases where students were on call, they may have had to choose between an assignment deadline or losing their job. Too much socialising can also impact on perception of workload if students fail to work on assessments until right before the deadline (McInnis et al., 2000).

Only one study was located which considered age and gender differences in relation to concerns of students including perception of workload. Younger students claimed difficulty understanding lectures, and relationship issues with boyfriends/girlfriends, flatmates or loneliness, caused problems. Female students cited a range of family issues, including childcare problems, trouble with spouse and 'other family hassles' as their major concern (Bradley, McLachlan & Sparks, 1990, p.115). Thomas (2002) agrees that family responsibilities particularly child

care, which make coping with the workload more difficult, have been shown to have a negative effect on retention especially for female students.

The way in which students perceive their workload and its pressures has been further related to motivation (Kember & Ng, 1996; McInnis et al., 1995). Motivation influences students' perceptions of their workload more than the number of hours they actually allocate to study (Kember & Leung, 1998). Kember and Leung (2006) found in their study that where students found the teaching and learning environment stimulating the workload was not perceived as excessive even though there was a substantial expectation of out of class study. Conversely, the student in their research who devoted the least amount of time to study, and had the highest perceived workload rating in the study, admitted that he lacked interest in his course and found the environment did not motivate him. Bryson and Hand (2007) also found in their study that when students disliked a particular module they tended to completely disengage.

Ramsden (1997) believes that lack of motivation arises from a context rather than being a fixed attribute which students bring to class. Biggs (2003) stated that motivation is a problem for a high proportion of students as they are not studying out interest but to obtain a qualification for a job and only put in sufficient effort to pass. Entwistle (1998) distinguished between the motivation of older students and students in a younger age group claiming that mature students are a highly motivated group and the primary concern in higher education is the problem of motivating younger students.

Kolari et al. (2006) found that student motivation affected how students used their study time. In another study students indicated that their problems with motivation were associated in part with loss of morale due to the pressures of heavy workloads (Mullins et al., 1995). Race (1995) warned that students can feel under so much pressure that their 'want to learn' is damaged, leading to perception of an unmanageable workload.

Assessment and curriculum issues have been found to have a major influence on students' perception of workload so these are considered in the next two sections.

Assessment issues

Winter (2003, p.114) is scathing about current assessment practices, stating "all too frequently our teaching fails to elicit more than an attempt by students to exploit the ambiguities in our assessment processes, to 'play the system'". Assessment has been shown to have an overwhelming influence on what, how, and how much, students study, so it is important to consider the effect of assessment on perception of workload. Innis (1996, cited in Gibbs & Simpson, 2005) for example, found in diary studies that students allocated their time largely to assessed tasks and that this became a more narrow focus over time, allocating as little as five percent of study time to unassessed study tasks by year three. Moreover, studies of the impact of students undertaking paid employment in parallel to full time study showed that they study fewer hours (Curtis & Shani, 2002), and allocate their reduced study hours strategically to assessment requirements (Gibbs & Simpson, 2005).

Sarros and Densten (1989) asked students in an Australian institution to rank a list of 34 stressors. Their results showed that the top five stressors were all related to assessment, with the number of assessments ranked first, followed by sitting examinations, size of assignments, low results from assignments, and assessment deadlines in fifth place. Another study of 1250 undergraduates in three Australian universities found that students associated some of their problems with workload with unnecessarily heavy assignment loads (Mullins et al., 1995).

A number of studies found that there is a minimal regard for the stressful issues that students faced in their first year of higher education including the high assessment demand on students, coupled with a lack of cross discipline communication in institutions about the timing and volume of assessments (Hinton & Tickner, 2000). There are claims that lecturers can assist students to manage their assessment load with weightings that reflect the importance of the specific learning outcomes, plus the time and effort required (Fox & Radloff, 1998). Prebble et al. (2005) concluded from their study that a number of factors affect students' perceptions of workload including the number of assessments, the nature of the tasks involved, and the timing of the assessments.

The issue of timing is related to the tendency for assessments in different courses to cluster at certain times during the year, which has been found to create short-term pressure on the students (Crooks, 1988). Lecturers often felt that they were competing with other subjects for students' attention and admitted that continually assessing students was a way of making sure they are paying attention to a subject (McInnis et al., 1995). However, Boud (1995) points out that students experience the interaction effects of one form of assessment on another and the ways in which students approach assessments due at any one time will be influenced by the other assessments. He agrees that very little attention has been given to the compounding effects of assessment when it is known that it is the total array of demands in a given period which influenced how each one was tackled.

Semesterised curricula have exacerbated the time issue with less time available for learning and students concentrating on completing summative assessments, which according to Yorke (2006) further reduce the potential for learning. There is significant support in the literature for the use of more formative assessment. Bandura (1997, p.217) for example, claims that early and frequent formative assessment is particularly pertinent to students entering higher education for the first time, stating that "the less individuals believe in themselves, the more they need explicit, proximal, and frequent feedback of progress that provides repeated affirmations of their growing capabilities." However, for formative assessment to work lecturers need to return feedback in a timely manner, and it is difficult to fit this into a short semester.

Boud (1995) argues that students cannot escape the effects of poor assessment, and Hinton and Tickner (2000) claim that "one could question the educational value of the volume of assessment" (p.15). Race (1995) states that if students do not have time to make sense of the learning experience, their lives become driven by assessment instead of by learning. Therefore, Boud (1995) believes it is vital to find out how students are experiencing assessment and what they actually choose to do in response to assessment tasks.

Curriculum issues

Most lecturers would probably agree that they want their students to be able to analyze, think critically and apply ideas, and employers require personal skills such as being self-aware, along with problem solving and knowing how to learn, all of which are expected to be included in the curriculum. Added to this is the problem that all disciplines face a constant increase in their knowledge base and it is often not obvious that any of the existing course content has become redundant (Kember et al., 1995; Kember & Leung, 1998). In the view of McInnis et al. (1995), an overloaded curriculum was responsible for many of the poor learning practices reported in their study leaving little time for students to develop the necessary generic skills.

Fox and Radloff (1998, p.565) refer to this as the 'overstuffed curriculum', that is, courses which have too much content and not enough opportunity for learners to develop transferable, lifelong skills including problem-solving, communication and interpersonal skills. They found that having to learn more in less time, left students with little opportunity to acquire a deep understanding of the subjects studied. They argued that faced with an 'overstuffed curriculum', students may adopt a surface approach to learning, or rely on tricks and short-term memory to cope with assessment, and complain about an unmanageable workload. Biggs (2003) agrees that "jam-packed curricula that attempt to cover too much" (p.36) makes in-depth learning difficult to achieve. He claims that this has led to students passing courses without having any real understanding of the key concepts.

It has also been shown that students find it difficult to distinguish key concepts from supporting material when faced with large bodies of content (Kember & Leung, 1998). Where lecturers did not make it clear what concepts to focus on students often relied on past examinations as a guide. Detailed marking schemes are recommended as a useful resource to indicate where students should focus their study (Fox & Radloff, 1998).

Overloaded curricula can lead to inappropriate student workload (Weerakoon, 2003). Consequently, students have been shown to experience time stress due to lecturers' obsession with coverage, where there are too many topics

and each is taught with equal emphasis (Biggs, 2003). Kreber (2003) found this in a study of Canadian science programmes where lecturers commented that not having enough time to get through the course content was a major concern for them. The project carried out by McInnis et al. (1995) encountered many lecturers who were focused on covering an overloaded curriculum, which they stated exacerbates students' workload problems. Biggs (2003) agrees that the lack of care and forethought in designing the curriculum influences students' perceptions of a heavy or unmanageable workload. From their study Bryson and Hand (2007) stated it was clear that many lecturers in concentrating on their own modules overlooked the overall student learning experience. Consequently, students experienced a very high workload which in turn led to the wrong kind of engagement, that is, engagement with the next critical assessment or task.

Kember (2004) states that it has clearly been shown that perceptions of workload and the amount of, and quality of, work by students can be shaped by the curriculum design in a broad sense. He claims that students resort to short cuts and undesirable study approaches to cope with excessive demands. These influences on students' perceived workload have implications for feelings of stress, student withdrawal, and effect on learning, all of which are discussed in the next section.

Effect of heavy student workload

Workload has been cited as a stressor in studies of reasons for undergraduate stress. In their study of 34 reasons for student stress, Sarros and Densten (1989) found workload was ranked at number seven. Another study of 42 student concerns carried out in two Australian institutions found students ranked *size of workload* at the top (Bradley et al., 1990).

There is a body of literature investigating reasons for student withdrawal in higher education in which workload is often cited as a problem. For example, in a survey conducted by Barwuah et al. (1997), lecturers considered that students' inability to manage their workload contributed significantly to drop out. McInnis, Hartley, Polesel and Teese (2000) found in their study at Flinders University that

32% of students who withdrew from their course cited an inability to cope with the workload as the reason. In addition, Yorke and Longden (2004) listed 'workload too heavy' as the reason contributing most to the inability of students to cope with the demands of their programme. Zepke et al. (2005), in their study of seven New Zealand Tertiary Education Institutes, also found that heavy workload was the major institutional factor responsible for student withdrawal. Another factor affecting student withdrawal is lack of clear, comprehensive information about a course and the workload involved. Heverly (1999) for example, found that 20% of students who left prematurely said that needing information or getting wrong information was a major factor in their decision to leave.

Perception of a heavy or unmanageable workload has been found to affect the quality of student learning. In one project for example, carried out at the University of Melbourne, it was found that forty percent of the first year undergraduate students surveyed were of the view that the volume of work made it difficult to comprehend the subject matter (McInnis et al., 1995). According to Marsh and Roche (2000) if students perceive the workload in a course to be too difficult, in that it may not match their capabilities or prior learning, or if the pace is too fast, so it is difficult to absorb the material, then learning suffers. Conversely, they state that if workload is perceived as too easy, students may lose interest and devalue such learning.

Chambers (1992) argued that having sufficient time to do the work required should be seen as a pre-condition of good learning, rather than just one among many conditions in which it may flourish. If students do not have time to think, go back over things; make their own meanings both individually and in group settings, and if they are always driven on by the demands of the curriculum, Chambers claims they have "little choice but to skim along on the 'surface' of things" (p.4).

Dochy (2005) claimed that appropriateness of the workload was one of the elements in the learning environment that influenced students' learning strategies. It is also argued that overloaded students find it difficult to experience subjective feelings of success, and are likely to be forced into adopting learning strategies

that minimize their ability to understand and generalize from the specific learning situation (Marsh & Dunkin, 1997; Marsh & Roche, 2000).

Summary

Student workload appears to be a major influence in the teaching-learning environment that impacts on the quality of learning, and research indicates that it is students' subjective views that matter most. The research located, involving student workload, revealed a range of influences on perceptions of a heavy or unmanageable workload and the implications of assessment and curriculum issues. This study seeks to address the limitations of previous research, where workload was considered as only one factor in the teaching-learning environment; with the focus on an in-depth investigation of this issue. The research will also determine whether previous findings related to students' perception of workload hold true in a New Zealand context.

A number of studies have revealed the connection between approach to learning and workload (Entwistle, 1988; Lizzio et al., 2002). Approach to learning is discussed in the remainder of the literature review. The next section introduces the topic by considering phenomenography as a theory of the 'approach to learning' concept, rather than as a research methodology, followed by a critique of this theory.

Phenomenography

The concept of approaches to learning became the subject of studies in the 1970s, although differences in approaches have probably been recognized for as long as people have thought about education (Ramsden, Beswick & Bowden, 1986). At this time a new type of research emerged based on naturalistic studies on students' own experiences with tasks undertaken in everyday studying (Entwistle, 1997). Marton and his colleagues were at the forefront of such research resulting in the development of the concept of 'approaches to learning' (Marton & Saljo, 1976), making the distinction between deep and surface learning

after systematic analysis of interviews following studies where students tackled the task of reading an academic article.

Saljo (1997) described this early research as an attempt to scrutinise and understand human learning by focusing on what people are in fact doing in situated practices and when studying. However, Richardson (1999) describes how this method of qualitative research was felt to lack a clear conceptual basis and was "disparaged from within the dominant paradigm of psychological research as being an essentially descriptive enterprise" (p.57). In fact, Marton (1988) admitted that the methods in his original work were "developed out of some common sense considerations about learning and teaching" (p.40).

Richardson (1999) details how Marton took the first steps in constructing a more convincing and principled rationale, characterising his approach as adopting a "from-the-inside" (p.57) perspective that sought to describe the world as the learner experienced it. According to Richardson, Marton "linked this idea to Kant's distinction between a thing itself (or noumemon) and a thing as it appeared (or phenomenon)" (1999, p.57). Traditional research had adopted an observational or 'noumenal' approach, whereas Marton and his colleagues had adopted an experiential or 'phenomenal' approach, which he labelled phenomenography. Richardson claims this was "an attempt to provide an ad hoc and post hoc underpinning" (1999, p.72) for the methodology that Marton and his colleagues had developed.

Svensson (1997) describes how phenomenography, developed mainly within the discipline of education, has its roots in the general scientific tradition, not in philosophy or some specific school of thought. He claims that phenomenography does not make any assumptions about the nature of reality and was developed as a reaction against, and an alternative to, the then dominant tradition of positivistic, behaviouristic, and quantitative research.

Phenomenography is an accepted method of defining the different ways in which people experience, interpret, understand, perceive or conceptualise a certain phenomenon or aspect of reality. It is believed that there are a variety of ways in which people experience or understand a phenomenon. Phenomenographers

seek to identify the multiple conceptions, or meanings, that a particular group of people have for a particular phenomenon. The focus is on describing the variation and experiences of a certain phenomenon across the group (Orgill, 2007). Saljo (1997) stated that the categories of description he and other early phenomenographic researchers put forward were their own constructions, and that other researchers might arrive at different categorisations on the basis of precisely the same evidence.

An assumption that is extremely important to phenomenographic research is that a person's conceptions are accessible in different forms of actions, but particularly through language (Svensson, 1997). Marton and Booth (1997) state that phenomenographic researchers use raw data in the form of reports or inferences from individuals' descriptions or accounts of their own experience, typically obtained in semi-structured, individual, oral interviews using open ended questions. However, phenomenography is not without its critics.

Critique of phenomenography

Orgill (2007) describes phenomenographic researchers as attempting to act as a neutral foil for the ideas reported by the participants in a study. However, Webb (1997, p.200) states it is difficult to defend the notion that ideas can 'simply' be reported or that categories are 'simply there' in some way outside of the historical and social experience of the reporter.

Webb bases his argument on the work of Popper, who considers all individuals to be "living at the centre of a horizon of expectations which confers meaning or significance on our experiences, actions and observations" (1972, p.345, cited in Webb, 1997) and Bernstein, who states that "we're always understanding and interpreting in the light of anticipatory pre-judgements and prejudices, which are themselves changing in the course of history" (1983, p.139, cited in Webb, 1997). Therefore, Webb claims it is reasonable to assume that researchers have had certain experiences and hold certain theoretical beliefs that will influence their data analysis and categorisation. He states that "one is left with the feeling that phenomenographic research will continue to find confirmation of its

suspicions as it continues to reproduce the discourses within which it is embedded" (p.203).

Haggis (2003) is scathing in her criticism of the way some researchers appear to assume that the approaches to learning model offers, “if not ‘the truth’, then at least a highly significant set of relationships about how students learn” (p.91). Orgill (2007, p.134) acknowledges that phenomenographic results may not be “truth” but that phenomenographers claim that their results are useful. Marshall and Case (2005, p.267) assert however, that this perspective derives from a positivist paradigm, whereas from a constructivist/interpretivist perspective they argue that all research findings should be considered as ‘thinking tools’, rather than representing any sort of absolute truth.

I do not reject all these criticisms but my stance is that phenomenography provides a useful and accessible way of defining the different ways in which students experience, interpret, understand, or perceive their approaches to learning. However, I believe the approaches to learning model offers only a partial, narrow view of student learning and does not represent absolute truth. Although part of the study focuses on the approach to learning concept which is based on the phenomenographic tradition, and considers students’ own experiences in everyday study, the workload data was not analysed in a strictly phenomenographic manner as students were commenting on previously defined categories.

To overcome some of the problems associated with the study of this concept Webb (1997) argues that researchers need to make their backgrounds and beliefs explicit, which may lead to a more critical examination of how the researcher’s own beliefs have affected the research and the results of the research. I make my background and beliefs explicit in Chapter One. The next section describes how the concept developed and how some researchers are questioning the widespread acceptance of the concept.

Approach to Learning

The concept of 'approach to learning' has been described by Webb (1997, p.195) as a "foundation stone" upon which much research, theory and practice of higher education has stood for the past 30 years. This section considers the development of the concept 'approaches to learning' and its detractors, and the characteristics of the different approaches to learning are described. In addition, gender and age are considered as factors influencing students' approaches to learning along with the relationship between approach to learning and learning outcomes. Research has established a relationship between workload and approach to learning and this is also explored.

Development of the concept 'approaches to learning'

The original formulation of the concept of 'approaches to learning' focused on two approaches: deep and surface (Marton & Saljo, 1976). Pask (1976) carried out an experiment which helped to define what a deep approach to learning involved. In his experiment, students could not settle for a surface approach but had to reach a form of conceptual understanding. He found that students used distinctly different strategies, which he termed holist, involving building up an overview, and serialist, involving step-by-step concentration on particulars. Pask concluded that both of these processes were necessary for a deep level of understanding (Entwistle, 1998).

Pask's conclusions about the division of the deep approach were confirmed by Entwistle and his colleagues in a five year research programme, which started in 1976 (Entwistle, 1988). This quantitative study also made it clear that a deep approach involved both the intention to reach personal understanding and the learning processes involved in achieving that intention. Qualitative interviews conducted during this project also suggested the existence of a third approach to learning, the 'strategic approach'.

It has also been mooted that deep and surface approaches are not mutually exclusive options (Elias, 2005; Hassall & Joyce, 2001). Volet and Chalmers (1992) claim that approaches to learning lie on a continuum, and it is interesting to note

that their study found that there is a move towards the surface end of the continuum, as examinations draw near.

Case and Marshall (2004) identified two intermediate learning approaches on this continuum: procedural surface and procedural deep. An example of moving from surface to procedural surface involves moving from memorizing information to working on problems. Changing from procedural surface to procedural deep involves a change of strategy, and the move from procedural deep to conceptual deep involves developing a better strategy in order to accomplish the same intention (p.613). Moreover, Case and Marshall do not suggest that students will necessarily proceed from using one approach to another in a sequential fashion; rather they believe that it is more likely students will adopt and apply a range of approaches in different course contexts.

Ramsden and Entwistle (1981) were the first to empirically establish a relationship between approaches to learning and perceived characteristics of the teaching-learning environment. Subsequent studies looked at learning within its natural setting, where studying depended on both teaching and assessment, and incorporated a range of sociological perspectives (Marshall & Case, 2005).

The extent to which students' approaches to learning are responses to environmental demands, as opposed to stable attributes has been the subject of debate. Many researchers now agree that variability in approaches does in fact coexist with consistency (Entwistle, 1998). Biggs (2003) states that students have predilections or preferences for this or that approach, based on prior experiences, but those predilections may or may not be realized in practice, depending on the teaching context. Ramsden (2003) concurs that although it is abundantly clear that the same student uses different approaches on different occasions, it is also true that general tendencies to adopt particular approaches do exist.

Recent research has concentrated on approaches to learning in specific disciplines. For example, in their study of a chemical engineering course, Case and Gunstone (2003) identified three qualitatively different approaches to learning used in this context. These were a conceptual approach, in which students focused understanding key concepts, an algorithmic approach, where students

aimed to remember standard solution methods, and an information-based approach, in which students went about gathering and memorizing pieces of information.

Richardson (1999) argues that when this approach to qualitative research was introduced it revolutionised the way in which both researchers and practitioners thought about the process and outcome of learning in higher education. However, while many researchers continue to search for methods of inducing students to adopt a deep approach to learning, criticisms of the concept of approaches to learning have emerged.

Critique of the 'approaches to learning' concept

Some researchers claim that the 'approaches to learning' concept has been widely and often unquestionably accepted by practitioners and that there appear to be few examples of critical engagement with the ideas that underpin the research surrounding this concept (Haggis, 2003; Marshall & Case, 2005), and I would agree with this argument. Haggis (2003) claims that most of the research seems to consist mainly of collecting and analysing data in an attempt to replicate or extend basic ideas that are seen to have already been established. I have collected and analysed my data in a way which replicates established ideas as a way to discuss respondents' quality of learning but I recognise that this is a limited view of learning.

I agree with Marshall and Case (2005), that the 'approaches to learning' theory has its limitations, and that the theory on its own does not provide a sufficiently rich description of student learning in higher education. The theory has also been criticised for being overly psychological and taking little account of sociocultural aspects of learning (Malcolm & Zukas, 2001). Webb (1997, p.207) states:

> In looking to ascribe meaning to the deep/surface metaphor, therefore, it is to ourselves, our philosophical tradition, predilections and preferences concerning life and learning, that we should turn. When we hold a mirror before the face of those we valorise for using a 'deep'

approach to learning it is our own image and cultural aspirations which we see.

Webb (1997) also notes that the deep approach always comes first and describes all that is 'good' and 'worthy' in learning (p.205), whereas the surface approach is generally despised. He points out that all surface learning is not necessarily bad and alludes to the many thousands of years humankind has spent learning by ritual chanting and oral histories, which should be respected as a method of learning.

Another criticism surrounds the validity of the deep/surface distinctions (Lonka, Olkinuora & Makinen, 2004). Webb (1997) argues that the binary notion of deep and surface approaches to learning is too crude and based on a Western tradition. He states that Chinese students learn deeply while appearing to be using surface approaches, a phenomenon known as the “paradox of the Chinese learner” (p.206). Watkins and Biggs (2001) believe that the problem lies in the failure to draw a distinction between rote learning, defined as memorizing without thought of understanding, and repetitive learning, that is learning in order to enhance future recall alongside understanding. They argue that Western students usually see understanding as a process of sudden insight, whereas Chinese students typically think of understanding as a long process that requires considerable mental effort.

Haggis (2003) criticises the ‘understanding’ and ‘meaning’ dimensions of the deep approach as extremely general and non-specific. She argues that these can be interpreted in a variety of ways, usually connected to a particular discipline, or a lecturer who is teaching and marking assessments within that discipline. She also asks how this concept can provide support for practitioners when they try to apply such ideas to the messy and complex realities of their individual teaching situations. I agree that it is difficult to define exactly what constitutes a deep approach in a specific subject area and how to build this into the teaching. A further criticism by some scholars is that the terms deep learning and deep approaches are being used interchangeably but since approaches to learning are

not characteristics of learners to refer to ‘deep learners’ is meaningless (Haggis, 2003, p.91).

Habeshaw (2003) states that terms like surface learning and deep learning convey a different and value-loaded meaning, more to do with a critical judgment by the teacher of the student as a learner. Haggis (2003) adds that the ‘approaches to learning’ model raises questions about the place and nature of such values in the current mass system, “revealing as it does an arguably ‘elite’ set of assumptions about student purposes and motivation” (p.97). It needs to be recognized that some students are extrinsically motivated, focused on gaining a qualification rather that learning per se.

Marshall and Case (2005) maintain, however, that it is crucial that higher education be oriented towards a deep approach to learning and argue that just because the aims are ‘higher’ does not necessarily imply that they are elite. They believe that ‘approach to learning’ is still a powerful framework with which to make sense of aspects of student learning situations. Rather than discard the theory, Marshall and Case argue that other perspectives have the power to enrich and extend it, which can provide insights into why some students are unable or unwilling to engage with the aims of higher education. This is why, despite its limitations, the theory was incorporated into this study.

It is generally accepted that the concept of ‘approaches to learning’ describes qualitatively different ways of learning and studying adopted by students, partly in response to their perceptions of the teaching-learning environment, and there is an extensive body of both quantitative and qualitative research focused on this (McCune, 2003; Watkins & Biggs, 2001). Although I incorporate the ‘approaches to learning’ concept into this study I recognize that it has limitations and is a narrow view of student learning. As the research on the concept of ‘approaches to learning’ has progressed, characteristics of each of the approaches have been refined.

Describing the characteristics of approaches to learning

Students adopting a deep approach to learning tend to focus on underlying meaning, on main ideas, themes, principles or applications, relating previous knowledge to new knowledge, and relating knowledge from different courses (Biggs, 2003; Ramsden, 2003). This approach also involves drawing conclusions, gaining an overview, seeking the central point, questioning and using evidence critically (McCune & Entwistle, 2000), with the intention of reaching a personal understanding (Entwistle, 1988).

McCune (2003) further suggests that this approach provides one possible proxy for high-quality learning in higher education, as it encompasses active interest and personal engagement. A deep approach is also related to the concept of self-directed learning and linked to lifelong learning (Kreber, 2003; Lindblom-Ylanne & Lonka, 1999).

A surface approach involves the intention of fulfilling assessment requirements by rote learning (Entwistle, 1988). It includes such methods as padding an essay, and listing points instead of addressing an argument (Biggs, 2003), failing to distinguish principles from examples, and associating facts and concepts unreflectively (Ramsden, 2003). It is further associated with a lack of interest in the material studied or a failure to perceive relevance in it (Ramsden, 1997). Ramsden (2003) claims that a surface approach is, at best, quantity without quality, and that it is evident that approaches are related to how much satisfaction students experience from their learning. He found during interview studies that students described feelings of resentment, depression and anxiety when they felt obliged to use a surface approach for a task or for an entire course (Ramsden, 1997). Kember, Wong and Leung (1999) state that approaches to learning can be better described as a spectrum rather than separate categories and listed a number of intermediate characteristics. For the surface approach they distinguished between rote-learning where the intention is memorising without understanding and an intermediate stage where the intention is primarily memorisation with a strategic attempt to reach limited understanding as an aid to memorisation. Another intermediate step was described as primarily

understanding which involved seeking comprehension then committing to memory for examination or task after understanding had been reached. Their research involved Asian students but there is some evidence in the literature of Western students adopting these intermediate positions (Thomas & Bain, 1984).

The strategic approach is said to be characterized by a strong attention to study organization and time management (Kreber, 2003). It is argued that students who adopt a strategic approach carefully marry their efforts to the reward system as they perceive it, and the intention is to be successful by using whatever means are necessary (Entwistle, 1988).

In addition, approaches to learning could be expressed in different ways in the sciences compared with the humanities (Ramsden, 1997) with rote learning being a necessary part of some disciplines, particularly in the early stages of learning a new topic (Entwistle, 1998). In science subjects for example, the deep approach appears to require an initial concentration on details, which is similar to a surface approach, whereas in the humanities, students often need to adopt a deep approach at the outset in interpreting material studied (Entwistle & Ramsden, 1983). Thus the precise meaning of a deep approach needs to be re-interpreted within each subject area, according to McCune (1998). She states that although the general intention of seeking understanding remains the same, it is important to establish the exact nature of a deep approach depending on the context. Prosser (2003) is also of the view that the surface approach to learning is reasonably generic but deep approaches to learning take their meaning within fields of study.

Influences on students' approaches to learning

Laurillard (1997) claims that approaches to learning are highly context-dependent, which can include aspects such as relation to other tasks, the student's previous experience, the student's perception of the lecturer who is assessing it, and how it will be assessed. Influences in the teaching-learning environment may prevent students from fulfilling their intention to understand the material, leading to rote learning as a temporary expedient (Entwistle, 1998; Ramsden, 1997). The amount of support from lecturers has also been found to influence students'

approaches to learning (Ramsden, 1997) with enthusiastic and empathic teaching, and good explanations, found to be related to a deep approach (McCune, 2003). Rodriguez and Cano (2007) contend that students probably tend to use less desirable approaches at the start of tertiary studies, as they are adapting to the demands of the higher education context including heavy workload, work pressures and assessment procedures. Moreover, depending on the nature of the assessment, students will develop different approaches to learning during a course (Nijhuis, Segers & Gijselaers, 2005).

Ramsden (1997) states that it is not enough to assume that course materials or assessment methods will encourage students to think deeply about the subject matter, however carefully they have been designed: it is necessary to consider the students' perspectives on what is required. "Only by studying the internal relationships between how students perceive course demands and how they approach studying can the complexity, and apparent paradoxes, in student learning be understood" (p.216). It is argued that surface approaches are easily induced, but it is much harder to devise strategies to encourage a deep approach (Ramsden et al., 1986), although giving students some freedom to choose what they will learn and how they go about their learning has been related to students adopting a deep approach (Wilson & Lizzio, 1997).

Each of the three approaches has also been related to students' motivation. In their study, Kember et al. (1999) found that motivation was the most frequently cited reason for the approaches students adopted. A surface motive involves a balance between working too hard and failing. Students tend to see tasks as external impositions and are pragmatically motivated to seek and meet the demands of the task with minimum effort. Biggs (2003) also argues that motivation to learn could be driven by a fear of failure in a surface approach. A deep motive is related to intrinsic motivation and enjoyment of the task, whereas a strategic motive is based on competition and ego-enhancement (Biggs, 1987; Prosser & Trigwell, 1999). Students may be motivated to adopt a deep approach to parts of a course seen as relevant to future employment, and a surface approach to content not deemed relevant (Yorke, 2006).

Motivation to learn can be driven by a desire to achieve certain goals (Watters & Watters, 2007) and there is evidence of a relationship between students' goals and approaches adopted (Beaty et al., 1997). Empirical evidence associates learning goals with a deep approach to learning, performance goals with a surface approach, and a disposition towards achievement with the strategic approach (Attenweiler & Moore, 2006; Escribe & Huet, 2005; Fenollar, Roman & Cuestas, 2007). For students who adopt learning or mastery goals engagement with the subject is the most important thing so they seek to develop their competence and acquire new skills. Those who adopt performance goals stress the importance of short-term results to either demonstrate superiority of achievement or to avoid having weaknesses exposed to view, and use external standards of comparison (Dweck, 1999; Yorke, 2006). There is evidence to suggest that students adopting performance goals striving for high levels of achievement could attain outcomes comparable to those who adopt learning goals (Yorke, 2006).

Some researchers claim that gender may affect approach to learning but the evidence is contradictory (Magee, Baldwin, Newstead & Fullerton, 1998). Hassall and Joyce (2001) for instance, found females adopting more surface approaches than males in their study, whereas Elias (2005) found the opposite, with more females adopting deep approaches than the males. Kreber (2003) found that gender was shown not to be a reliable predictor for any of the three approaches to learning. Richardson (2000) argues that there are no overall differences in approach to learning by males and females but accepts that differences do arise in particular situations.

Studies looking at age have generally shown that mature students show a tendency for more deep and less surface approaches (Magee et al., 1998). An inventory administered by Sadler-Smith (1996) found mature students, those 23 years and over, scored higher than younger students, less than 23, on deep approach sub-scales. Likewise, Richardson (1995) reported that mature students are more likely to adopt a deep approach and, conversely, less likely to adopt a surface approach than their younger counterparts. Many research studies have

shown that the outcomes of students' learning are associated with the approaches they use (Ramsden, 2003) and this is discussed in the next section.

Relationship between approaches to learning and learning outcomes

Biggs (1979) identified a relationship between approaches to learning and learning outcomes using a questionnaire to measure approaches to learning and the SOLO (Structure of Observed Learning Outcomes) taxonomy to measure learning outcomes. Several studies have since investigated this relationship but the results have been mixed (Reid, Duvall & Evans, 2005; Trigwell & Prosser, 1991). Byrne et al. (2002) suggested that this may be explained by the potential inappropriateness of examination marks as a means of measuring differences in the quality of the learning outcome, as these do not always reward the deep approach (Gijbels, Van de Watering, Dochy & Van den Bossche, 2005). According to Byrne et al. (2004) the nature of a learning outcome is not widely defined but they believe that approaches to learning are a critical determinant of the quality of learning outcomes achieved.

Trigwell and Prosser contend that the major aim of higher education is to produce high quality learning outcomes among students (1991) and studies have consistently shown that these are related to a deep approach to learning (Entwistle, 1988; Prosser et al., 2003; Wilson & Fowler, 2005). Ramsden et al. (1986) found a modest correlation between broad indicators of performance (grades) and approaches to learning: negative for a surface approach, positive for a deep approach. Using a deep approach does not guarantee understanding; it is a necessary, but not a sufficient condition, for high-quality outcomes according to Ramsden (2003).

In contrast, studies of student learning have also consistently shown that surface approaches to learning are related to lower quality learning outcomes and inefficient studying (Kolari et al., 2006; Trigwell, Prosser & Waterhouse, 1999). Ramsden (2003) claims that surface approaches may permit students to imitate authentic learning and to fool their teachers into thinking that they have learned. In

contrast, Haggis (2003) acknowledges that a surface approach can lead to very successful learning in terms of results.

Models have been developed to help illustrate how the various factors may interact to produce student outcomes. Ramsden's (2003, p.82) model (see Figure 2) for example, recognises that students' perceptions of task requirements are determined by the interaction of their personal characteristics and the context of learning. Three key areas within the context of learning are identified; assessment, curriculum, and the teaching/learning mode. Perception of the task is thought to influence the student's approach to learning which in turn influences learning outcomes, although this was not intended to suggest a single causal sequence of events.

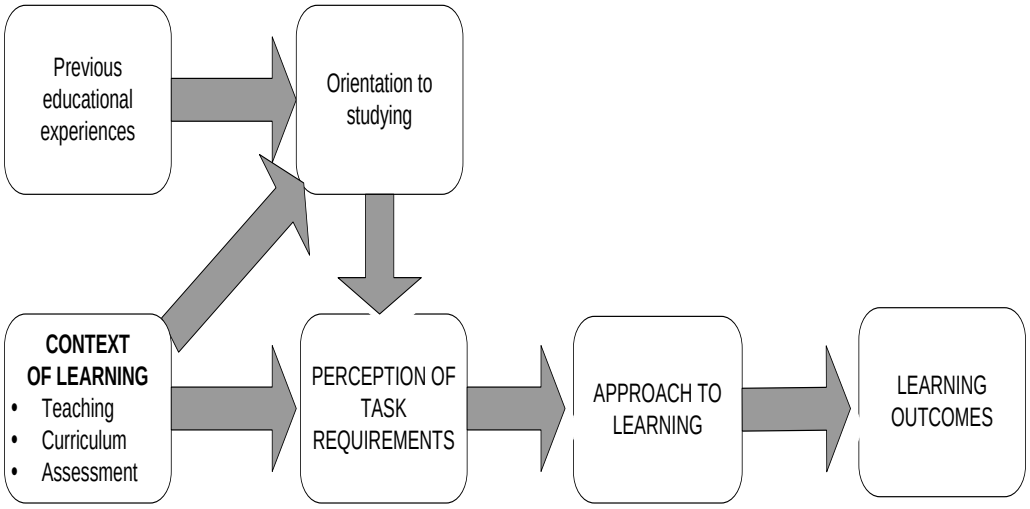

Figure 2. *Student Learning in Context*

Ramsden (1988, p.160) describes perception as the 'point of contact' between the educational context and orientation to studying, and also refers to perception as a relation between students and their context. Case and Gunstone (2003) have criticised this as a limited description of what is meant by perception. They claim that Ramsden's description of perception is theoretically ambiguous, stating that the model seems to suggest a separation between individuals and the world around them, which is potentially associated with notions of blaming the student, since problems and learning can be located solely with the student. I see the model as suggesting that student characteristics and the context act in concert

to influence perceptions, and that problems with learning cannot be attributed exclusively to the student.

Lizzio et al. (2002) agree that evidence would seem to indicate that there are clear relationships between students' perceptions, approaches to learning, and outcomes. However, they believe that the extent to which students' perceptions of their learning environment directly impact on their academic outcomes, or whether the process involves a more indirect path of perceptions influencing approaches, which in turn influence academic outcomes, remains unclear. McCune (2003) warns that it would be impossible to provide any single conceptualisation which would fully capture the rich diversity of students' learning and their learning outcomes.

Research studies on approaches to learning

According to Entwistle (2000) research on student learning began with interviews then moved to quantitative methods using inventories to assess what the student usually does in a learning situation, in order to assess students' predominant approach. One such inventory was the Study Process Questionnaire developed by Biggs (1993). The Approaches to Studying Inventory was another example. This was developed by Entwistle and Ramsden (1983) and was revised several times resulting in the development of the ASSIST instrument, which claimed to use less psychological terms than the original (Tait, Entwistle & McCune, 1998).

A wide range of studies have used the ASSIST instrument. The instrument consists of seven sections (Entwistle, Tait & McCune, 2000) and these studies have used different combinations of these (Reid et al., 2005; Trigwell & Prosser, 1991). Sadler-Smith (1996) used only the subscales in part of Section D of the instrument, related to the deep and surface approach, to study the effect of work experience on students' perception of their approach to learning. The whole of Section D in the ASSIST instrument and reflective journals were used in Webster's study (2002) to get students to consider their learning styles. In their quantitative study, Byrne et al. (2004) used all the subscales in Section D, and Section G

measuring students' preferences for different types of teaching, to explore the variation in academic performance in a group of business students. An intelligence test was used along with the ASSIST instrument in Diseth's (2002) study of psychology students to investigate the relationship between intelligence, approaches to learning and academic achievement. No studies were located that took the exact approach in this study of using Section D of the instrument with all three approaches to learning but not including all of the sub-scales provided in this section.

Relationships between workload and approaches

A number of studies have revealed connections between approach to learning and workload providing empirical support for the notion that perceptions of a heavy workload influence students towards surface approaches (Entwistle, 1988; Lizzio et al., 2002), although the relationship has tended to be weak (Kember & Leung, 2006). For example, Kreber (2003) found in a study of Canadian science undergraduates that heavy workload was the strongest predictor overall of a surface approach to learning. Conversely, Kolari et al. (2006) concluded that students with a surface approach use a greater amount of time on independent study, which can lead to perception of a heavy workload.

Several dimensions in the teaching-learning environment have been linked to both perception of a heavy workload and students adopting a surface approach. These include high anxiety, the perception that assessment tasks involve rote learning, inadequate background knowledge of the subject, lack of prerequisite skills, non-academic priorities exceeding academic ones, or an intention to achieve a minimal pass (Johnston, 2001).

Metacognition, defined as "the move to greater knowledge, awareness and control of one's own learning" (Case & Gunstone, 2002, p.461), has a critical impact on learning and the achievement of learning outcomes. Metacognitive development requires time for students to reflect on their learning (Vermetten, Vermunt & Lodewijks, 2002). Case and Gunstone (2002) conducted a study with an undergraduate chemical engineering course, at the University of Cape Town,

investigating metacognitive development, which was conceptualized as “a shift in a student’s approach to learning” (p.463). They found that the most significant aspects which appeared to be detrimental to metacognitive development and students’ approach to learning were heavy out of class workload and the time pressures in assessments. The out of class workload was largely due to assessments in other courses taken in parallel to the course in the study.

Entwistle (1997) contends that time constraints may prevent students who would prefer to seek understanding from being able to adopt the deep approach consistently. He argues that adopting a deep approach involves a substantial investment of time, and students have to tread a wary path between their academic interests and time pressures created by deadlines, workload and their own personal concerns. Thomson and Falchikov (1998) referred to higher levels of stress among students because of their perception of a lack of time. They stated that:

> students appeared to be aware that, if they manage their time effectively, they will be able to deal with assessments in a way that will help their learning and understanding of the subject, which is consistent with a deep approach. However, they rarely succeed in managing their time this way, and end up rushing assignments and feeling that they are approaching the work superficially (p.388).

This finding was also shown in a study by Case and Gunstone (2003), where students recognized the limitations of using surface approaches but their perception of a lack of time, due to the workload required, did not allow them to feel that there was the space to make the necessary changes required for a deep approach.

According to Kember and Leung (1998) curriculum design can influence students towards a surface approach to learning which in turn contributes to a perception that the course is overloaded. Hassall and Joyce (2001) agree that overloading syllabuses with content results in a lack of opportunity to adopt a deep approach. Dochy (2005) found in his qualitative analysis of data that students perceived the assessment demands as asking for higher level cognitive skills but

they also perceived the learning environment as overloaded and therefore offering no room for a deep approach. The students indicated this forced them to employ surface level strategies.

Studies have also shown that students who perceive the nature of assessment as encouraging memorisation and recall, and who perceive the workload as high due to the assessment demands of a subject, are more likely to adopt a surface approach (Trigwell et al., 1999). An example of this is found in a study by Gibbs (1992, p.101, cited in Gibbs & Simpson, 2005) who quoted a student as saying: "If you are under a lot of pressure then you will just concentrate on passing the course". Conversely, one study suggested that one of the strongest predictors of students using a deep approach to studying was their perceptions of the appropriateness of the assessment (Lizzio et al., 2002). Entwistle (2003) recommended making sure workload is appropriate and monitoring students' experience of their workload in order to promote a deep approach to learning.

Richardson (2000) provided an overview of studies carried out by Meyer in the early 1990s which consistently found a relationship between approaches to learning in higher education and perceptions of the academic environment, including workload. Richardson states that although the data are correlational in nature, which says nothing about the direction of any causal relationship, it is possible that the relationship is reciprocal. Kember (2004) also claims that studies have found workload to be related to a surface approach to learning and the relationship is probably best interpreted as reciprocal in that if a course encourages a surface approach this promotes perceptions of a high workload, and perceptions of a high workload also tend to induce a surface approach. In addition, none of the studies he reviewed found a significant negative relationship between workload and a deep approach to learning.

Chapter Summary

Students' perception of workload appears to be an element in the teaching-learning environment that impacts on the quality of learning and a number of studies have found a variety of reasons contributing to these perceptions, relating

to both the institution and to the characteristics and circumstances of individual students. Previous studies have found that the implications of perceptions of a heavy or unmanageable workload include a detrimental effect on retention, student learning, and motivation.

Phenomenography offers a way to access students' qualitatively different beliefs about their approaches to learning and was included for this reason. However, it is subject to legitimate criticism and a phenomenographic approach was not relied on in analyzing the qualitative data in this study.

The concept of 'approach to learning' has been the subject of extensive research and some scholars would claim that it is a useful way of considering learning in the field of higher education. Others however, caution that the results of research in this area can be problematic and have limitations, a position to which I ascribe. It is recognized that this is a narrow view of student learning. The characteristics of the three approaches were reviewed and studies have indicated a number of influences on these approaches and the apparent relationship to learning outcomes. Empirical evidence points to a reciprocal relationship between perception of workload and students' approach to learning.

In their study, Prebble et al. (2005) mooted the proposition that students should experience good quality teaching and manageable workloads. They stated that no New Zealand tertiary studies were found that related to the issue of a manageable workload. Only one early New Zealand study by Gough and Monday (1979) was found that considered workload issues in universities. Only two studies carried out in Hong Kong were located concentrating solely on perceptions of workload (Kember, 2004; Kember & Leung, 1998), using a combination of questionnaires involving Likert scales, diary studies, and interviews. Although a number of research studies were located that had employed the ASSIST instrument none matched the approach taken in this study with regards to influences on perception of workload and relationship to approach to learning. No studies were located that used a questionnaire to ascertain which influences affect students' perception of workload followed by individual interviews for more in-depth

understanding of these influences, and comparison with approach to learning adopted.

The literature reviewed provides useful insights into potential influences on students' perceived workload in a range of higher education contexts. However, if improvements are to be made in the teaching-learning environment in this context it is necessary to know which specific areas to focus on in ensuring that students experience a manageable workload. Therefore, this study will make an original contribution to the literature in that it takes a unique approach, assembling all the influences on perceived workload from other studies to discover which ones contribute most to perceptions of a heavy or unmanageable workload in a specific context, as a necessary first step in planning changes. This method could also be utilized by other institutions to study student workload problems in their specific context. The next chapter discusses the methodology and data collection procedures employed in this study.

CHAPTER THREE
Methodology

Introduction

This chapter justifies, discusses, and describes the theoretical framework underpinning this study which centres on the pragmatic paradigm and a mixed method approach. The controversy surrounding the mixing of paradigms in studies combining qualitative and quantitative approaches is discussed and the methodology chosen is defended. In addition, case studies are discussed and justification is given for the use of a case study in this research along with justification of the data collection instruments chosen. The chapter also describes the steps taken in quantitative and qualitative data collection and analysis, and discusses ethical considerations.

Theoretical framework for the study

Research paradigms

There is confusion surrounding the term paradigm as researchers use it in different ways including as a description of methodology (McIntyre, 1996). Guba and Lincoln (2004) define paradigm as the basic belief system or worldview which defines for its holder, the nature of the 'world', and the individual's place in it, and contains his or her ontological, epistemological, and methodological premises. They state that the beliefs are basic in the sense that they must be accepted simply on faith, as there is no way to establish their ultimate truthfulness, and, since they are inventions of the human mind, are subject to human error.

McIntyre (1996) argues that paradigm is more than methodology; it should be treated as the broader, more encompassing framework, which subsumes the set of assumptions that lead a researcher to adopt a methodology as being the best or most appropriate methodology for the research study. Greene and Caracelli (1997) contend that paradigms are important as without the assumptive framework they provide "the inquirer is perhaps too readily buffeted by the

sociopolitical influences of the context. Responding with integrity, meaningfulness, and coherence to such influences requires a paradigmatic anchor" (p.11).

A number of paradigms have evolved beginning with the " received view" (Guba & Lincoln, 2004, p.23), a natural science model, or positivist paradigm, which is a philosophy (Onwuegbuzie, 2002) concerned with causality, measurement, and generalisability (Bryman, 1992; Denzin & Lincoln, 2000). The positivist paradigm is based on the notion that reality exists "out there" and is driven by immutable natural laws. It is believed that it is both possible and essential for the inquirer to adopt a distant, non-interactive posture. Values and other biasing and confounding factors are thereby automatically excluded from influencing the outcomes (Guba, 1990).

Postpositivism emerged in the 1950s and 60s, the tenets of which include the notion that research is influenced by the values of the researcher and the theory the researcher uses. This paradigm is underpinned by the belief that the researcher's understanding of reality is constructed (Teddlie & Tashakkori, 2003). This movement also gave birth to alternative paradigms including constructivism (Onwuegbuzie, 2002).

The constructivist paradigm is underpinned by a relativist ontology that Guba and Lincoln (2004) claim assumes "multiple, apprehendable, and sometimes conflicting social realities" (p.27). The epistemology is subjectivist, seeing knowledge as created in interaction among researcher and participants. Guba states that "constructivists not only abjure objectivity but celebrate subjectivity" (1990, p.17), since subjectivity is the only means of unlocking the constructions held by individuals. He argues that if realities exist only in respondents' minds, subjective interaction seems to be the only way to access them.

Many researchers have become entrenched, claiming paradigm superiority for the stance they adopt, but Onwuegbuzie (2002) contends that false dichotomies exist, as positivist and non-positivist philosophies lie on an epistemological continuum. Lather (1986) advocated for 'post-paradigmatic' inquiry arguing that paradigms are passé, and she states that rather than establishing a new orthodoxy, researchers need to experiment. This experimentation began during

the 1990s when some researchers advocated for pragmatism, a paradigm first posited by Howe (1988). This paradigm was a philosophical position based on the notion that what works is what is important, rather than some abstract philosophy. Therefore, pragmatists avoid the use of metaphysical concepts 'truth' and 'reality', presenting a very practical and applied research philosophy (Teddlie & Tashakkori, 2003).

Johnson and Onwuegbuzie (2004) list 22 general characteristics of pragmatism including that knowledge is regarded as being both constructed and based on the reality of the world individuals experience and live in, and the theory informs effective practice. They also list some of the weaknesses of pragmatism suggesting that many researchers come to pragmatism looking for a way to get around many traditional philosophical and ethical disputes. There is still ongoing debate however surrounding the association of quantitative and qualitative methods with specific paradigms.

The paradigm debate

There is confusion surrounding the terms used by scholars in referring to paradigms and research methods (McIntyre, 1996). Guba and Lincoln (2004) claim that it is not uncommon for the terms qualitative and quantitative to be used as umbrella terms superior to the term paradigm. However, they believe that these terms should be reserved for a description of types of methods, which may be used appropriately with any research paradigm.

Traditionally, the most common name given to the paradigm associated with qualitative research is constructivism (Teddlie & Tashakkori, 2003), whereas quantitative research is often associated with the positivist paradigm (Creswell, 1994). However, recent theoretical work in the qualitative research movement has led to the conclusion that multiple paradigms (and not just constructivism and its variants) are applicable to qualitative research (Teddlie & Tashakkori, 2003).

Yu (2003) claims that the debate regarding the association of quantitative methods and the positivist paradigm seems to be trapped in a time warp. He contends that there is a misconceived relationship between positivism and

quantitative research and that it is an oversimplification to treat quantitative methods as a single paradigm. In the view of Clark (1998), to equate positivism with all empirical methods is erroneous, confusing a general philosophy with a particular method.

Mixed method research has been around since the 1900s (Onwuegbuzie, 2002) but became quite controversial from around 1970 onwards (Onwuegbuzie, 2002). This controversy revolves around the "paradigm debate" (Guba, 1990) concerning the legitimacy of combining the two methods in a single research study. Purists warn that mixing paradigms, also referred to as the incompatibility thesis, is a risky business (Johnson & Christensen, 2004; Teddlie & Tashakkori, 2003). It is argued that since qualitative and quantitative approaches rely on very different assumptions about both the nature of knowledge and the appropriate means of generating knowledge, the kinds of information they produce have no common measure with one another (Morgan, 1998). However, Johnson and Christensen (2004) contend that the incompatibility thesis has now been largely discredited as there is no one-to-one correspondence between paradigm and method (Onwuegbuzie, 2002).

According to Clark (1998), it is being acknowledged that philosophically the qualitative and quantitative paradigms are not as diverse, or mutually incompatible, as is often conveyed. He claims that "staunch identification of methods with particular paradigms may not be as accurate, or even as useful, an endeavour as past trends would indicate" (p.1243). Moreover, pragmatists argue that a false dichotomy exists between qualitative and quantitative approaches and that researchers should make the most efficient use of both methods in understanding social phenomena (Creswell, 1994).

The philosophy of post-positivism is increasingly underpinning contemporary empirical social research activity and Clark (1998) contends that that it need not exclude either qualitative data or 'truths' found outside quantitative data, and is not confined to that which can be directly perceived. In the view of Johnson and Onwuegbuzie (2004), researchers should use a method and philosophy that

attempt to fit together the insights provided by qualitative and quantitative research into a workable solution.

Some researchers claim that the philosophical foundation for mixed methods has not yet been found, and concern exists that the way in which the pragmatism philosophy actually informs the practice of mixed methods research has not been worked out sufficiently (Creswell, Trout & Barbuto Jr, 2003). Greene and Caracelli (2003) on the other hand regard mixed methods research as intentionally engaging multiple sets of paradigms, and they argue that assumptions guide inquiry activities and frame what sense is made from inquiry findings. Their view is that any one particular set of assumptions should not be privileged, rather all should be viewed as offering a partial but valuable lens on human phenomena. "A given set of assumptions about reality and knowledge is not sacrosanct; rather, it can be modified, expanded, or constricted – altered to fit changing social understandings and needs" (p.98).

Teddlie and Tashakkori (2003) describe mixed methods as the third methodological movement but contend that "the field is just entering its 'adolescence' and that there are many unresolved issues to address before a more mature mixed methods research area can emerge" (p.3). A description of qualitative and quantitative methods follows.

Quantitative and qualitative methods

Quantitative researchers try to remain as value-free as they can, and they attempt to avoid human bias whenever possible (Johnson & Christensen, 2004). They try to explain student behaviour from the outside, remaining distant and independent of those being researched (Creswell, 1994). This involves the use of standardized questionnaires and other quantitative measuring tools used to measure carefully what is observed. In judging results, statistical criteria are often used to form conclusions (Johnson & Christensen, 2004). It is also relatively quick to collect data and useful for studying large numbers of people (Johnson & Onwuegbuzie, 2004).

In contrast, it is argued that qualitative researchers stress the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and admit to the value-laden nature of a study and actively report biases. Qualitative research provides rich context bound information leading to patterns that help explain a phenomenon (Creswell, 1994; Denzin & Lincoln, 2000). In Geertz's view (1973, cited in Shaffer & Serlin, 2004), the overarching goal of qualitative inquiry is to provide some form of "thick description" in an attempt to understand how and why events unfolded in a particular place and time. He contends that from this the researcher can draw inferences about specific participants' experiences, assumptions, emotions, and understandings in a given setting, and thus why they acted in the ways they did. The strengths of qualitative research include that it is useful for studying a limited number of cases in depth, and qualitative data in the form of the words of participants lend themselves to exploring how and why phenomena occur (Johnson & Onwuegbuzie, 2004).

On the other hand, knowledge produced may not generalise to other people or settings (Johnson & Onwuegbuzie, 2004). Generalisation is not the goal of small sample qualitative research that encourages multiple meanings. It is based on the notion that it may be useful in making sense of similar individuals or situations. "If we want to understand educational contexts, should we not understand the uniqueness and the complexity of those contexts?" (Slekar, 2005, p.85).

There has been much debate about the superiority of quantitative and qualitative methods (Teddlie & Tashakkori, 2003). Denzin and Lincoln (2000) state that qualitative investigators argue that quantitative researchers are seldom able to capture their subjects' perspectives because they rely on more remote, inferential empirical methods. Conversely, the empirical materials produced by qualitative approaches are regarded by many quantitative researchers as unreliable, impressionistic, and not objective. Maxwell (2004) contends that qualitative inquiry legitimises a concern with understanding particular situations rather than viewing only surface variables of the most general contexts.

Greene and Caracelli (1997) argue that all methods have limitations and biases and the strength of one method can be used to overcome weaknesses in another method. Moreover, Onwuegbuzie (2002) refutes many of the misconceptions and assertions of purists on both sides. For example, he states that advocates, who claim that the techniques used in the quantitative approach are objective, overlook many subjective decisions that they make throughout the research process, such as the decision to use the 5% level of significance to test null hypotheses, which he contends has no justification. He also criticizes the extreme relativist position of qualitative researchers who claim multiple, contradictory, yet valid accounts of the same phenomenon. Onwuegbuzie claims this attitude leads many qualitative researchers to adopt an "anything goes" attitude, thereby not paying due attention to providing an adequate rationale for interpretations of their data.

Since both quantitative and qualitative methods were necessary to answer the research questions, both are incorporated into this study. Each type of data was necessary to build a rich picture of the magnitude of the problems and underlying reasons for students' perceptions. One type of data informed the other with the quantitative data providing an indication of areas to explore in the qualitative data. The number of researchers advocating they should be mixed in single research studies is increasing rapidly, according to Johnson and Christensen (2004), which supports their use in this context.

Support for mixed method approach

Greene and Caracelli (1997) state that there is wide support for the notion that mixing both quantitative and qualitative methods is not problematic, and different kinds of methods are needed to understand the complexities of the social world more completely. Bryman (1992) claims that although quantitative research is usually driven by the researcher's concerns, and qualitative research takes the subject's perspective, these emphases can be brought together in a single study. Morgan (1998) agrees that quantitative and qualitative methods can be used for different, but well coordinated, purposes within the same project. He states that

mixed methods can lead to contradictions and fresh perspectives, add scope and breadth to a study, and the overlapping and different facets of a phenomenon may emerge like peeling the layers of an onion. This is an aspect that draws me to this approach. Moreover, in deciding whether to use quantitative or qualitative methods, Hammersley (1992) uses the analogy that it is not a cross roads where the decision is made to go one way or another but a complex maze where the researcher is repeatedly faced with decisions and where paths wind back on one another.

Johnson and Onwuegbuzie (2004) argue that it is now time that all researchers and research methodologists formally recognize the mixed method approach and begin systematically writing about it and using it. They state that ”it is a key point that mixed methods research truly opens up an exciting and almost unlimited potential for future research” (p.20). A case study method may employ either qualitative, or quantitative, methods, or both (Anderson, 1998) and this approach is discussed in the next section.

The case study approach

Anderson (1998) argues that education is a process and, at times, requires a research method which is process-oriented, flexible and adaptable to changing circumstances and a dynamic context; which he claims is a description that fits the case study method. Yin (2003) defines the scope of a case study as “an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (p.13). He claims contexts are unique and dynamic hence case studies investigate and report the complex unfolding interactions of factors in a unique instance. In addition, Bassey (1999) states that a case study is “ a study of singularity (research into particular events) conducted in depth in natural surroundings” (p.46).

There are a several advantages of using a case study approach. Merriam (1998) describes the end product of a case study as a rich, thick description of the phenomenon under study. Cohen, Manion and Morrison (2000) state that a case

study can penetrate situations in ways that are not susceptible to numerical analysis. This was a reason for choosing this approach.

However, Yin (2003) argues that good case studies are difficult to do and there are a number of prejudices against the case study strategy. He states that equivocal evidence or biased views that can influence the direction of the findings and conclusions. An unethical case writer could select from among available data to illustrate virtually anything he wished (Merriam, 1998). Many critics also argue that case studies lack reliability and that another researcher might come to a different conclusion (Anderson, 1998). Cohen et al. (2000) agree that case studies are not easily open to cross-checking, hence biased views can influence the direction of the findings and conclusions. Although I went into this study believing that student workload was a problem at this institution, I had no clear idea of what the issues were and how this affected students. I was interested to see what emerged from the data and included a range of student views, rather than selectively choosing those that represented a preconceived picture. However, we all bring an unconscious element of bias to qualitative research.

Another concern about case studies is that they provide little basis for scientific generalization, although Stake (2000) believes that generalisation need not be emphasised in all research, and it is not intention in this study. Marshall and Rossman (1999) argue that naturalistic situations cannot and should not be controlled by the researcher, and they cannot and should not be replicated, because the real world changes. Anderson (1998) notes that the strongest argument in favour of the case study is that it incorporates a tight and interconnected path of recorded evidence so that the reader, who was not present to observe the case, can follow the analysis and come to the stated conclusion. He concludes that the case study itself strives for internal validity, trying to understand what is going on in the studied situation.

McInnes et al. (2000) recommend that researchers undertake single-institutional case studies, as there are inherent differences between institutions and each campus must understand the needs and experiences of its own students in improving the quality of learning (Pitkethly & Prosser, 2001). This is supported by

Braxton and Lien (2000) who found differences in multi-institutional studies compared with single-institutional studies and was also the approach taken in the New Zealand research looking into improving higher education student outcomes in the first year of study, which reported findings from individual institutions .

Single-institutional case studies were also endorsed in a four year project, which began in 2001 as part of a major Teaching and Learning Research Programme established by the United Kingdom Economic and Social Research Council, which carried out collaborative research with practitioners to bridge the gap between researchers and 'end-users'. Underlying the programme was a demand from government that research should establish 'what works' in education, which was believed to involve methods of teaching that can be readily generalised across subject areas and settings. However, the project found that there are major differences in 'what works' that must take into account variables such as the prior knowledge of students, the stage of the course, the subject area, and the institutional setting. "Our findings will necessarily include case studies that draw attention to differences rather than generalizations, but our expectation is that they will be of much more value to university teachers than any attempt to offer definite, general conclusions about 'what works'" (Entwistle, 2003, p.11). Haggis (2004) also states that an attempt to articulate some elements that are not seen as generalisable may make a contribution towards better understanding of "the overall complexity designated by the idea of 'learning in higher education'" (p.350).

Also related to this project, Entwistle et al. (2003) argue that while research findings can be used to suggest generic features to act as guidelines for setting up teaching-learning environments, in higher education the marked differences across subject areas and contexts suggest systematic differences in the nature of learning environments. The methodology adopted in this study is justified in the next section.

Justification for methodology adopted in study

Justification of pragmatic mixed method approach

According to Teddlie and Tashakkori (2003), researchers have at least six different positions on the issue of how paradigms are to be used in the development of mixed methods research. These include the incompatibility thesis previously discussed, and the "dialectic" stance which sees mixed methods research as intentionally engaging a multiple set of paradigms, and involves examining the "tensions that emerge from the juxtaposition of these multiple diverse perspectives" (p.18). They claim that some scholars believe that one type of paradigm is best used if one is doing one type of study, while another paradigm is best if one is doing another type of study, whereas the "complementary strengths" thesis involves keeping the methods separate so that the strengths of each paradigmatic position can be realized.

A further position, the a-paradigmatic thesis involves the belief that methods and paradigms are independent of one another therefore the epistemology-method link is not an issue. Scholars who adopt this stance argue that statistics can be used in a straightforward way without doing a literature review on logical-positivism, which was the view was incorporated into this study, where statistics were used to analyse the questionnaire data but this was not seen to be directly linked to a positivist stance. A final position involves using a single paradigm to serve as the foundation for mixed methods research (Teddlie & Tashakkori, 2003).

This final position using a single paradigm, the pragmatic paradigm, serves as the foundation for this mixed method research. Teddlie and Tashakkori (2003) state that this position attempts to fit together the insights provided by qualitative and quantitative research into a workable solution, embracing both post-positivism and constructivism, and argue that there is precedent in the literature to support this approach (Teddlie & Tashakkori, 2003).

Post-positivism encompasses evidence in inferable forms such as the self-reports inherent in interviews or questionnaires (Clark, 1998), which are the data collection methods used in this research. The constructivist paradigm, according to Denzin and Lincoln (2000), aims to understand and reconstruct the

constructions that individuals initially hold, which are seen as local and specific in nature, and allow new interpretations as information improves. This fits with the aim of this study which is to understand the specific constructions students in the polytechnic hold regarding their workload and approaches to study, and to gather further information to form new interpretations of why this might be the case.

Johnson and Onwuegbuzie (2004) state that to be considered a mixed-method design the qualitative and quantitative findings must be mixed or integrated at some point. Methods can be seen on a continuum, with quantitative methods at one end and qualitative methods at other and mixed at some point along the continuum, depending on the combination, so the two forms build on one another (Creswell et al., 2003). To gain a clearer understanding of students' perspectives at the polytechnic the findings for this study were integrated at the data analysis stage.

Johnson and Onwuegbuzie (2004) further claim that by utilizing quantitative and qualitative techniques within the same framework, mixed methods research can incorporate the strengths of both methodologies. In this study the strength of using mixed methods was that words were used to add meaning to numbers and numbers were used to add precision to words. Furthermore, the quantitative method of the questionnaire led to the formulation of questions for the qualitative method, the semi-structured interviews (Bryman, 1992).

A tenet of mixed methods research is that researchers should mindfully create designs that effectively answer their research questions. This approach can answer a broader and more complete range of research questions (Johnson & Onwuegbuzie, 2004). In this study using a mixed method approach enabled the range of research questions to be explored starting with the straightforward numerical aspects related to the questionnaire followed by more probing questions related to the interviews.

Justification of case study

Miles and Huberman (1994) think of the case as "a phenomenon of some sort occurring in a bounded context" (p.25). They state that one technique for

assessing the boundedness of the case is to ask how finite data collection would be, that is, whether there is a limit to the number of people involved who could be interviewed, which was true of this study. Figure 3 shows the bounded context of this study graphically. The 'heart' is full-time students studying at undergraduate level. The boundary defines the edge of the case or what will not be studied. In this study the boundary includes students studying at the regional polytechnic during the years 2006 to 2007 who volunteered to take part in the study.

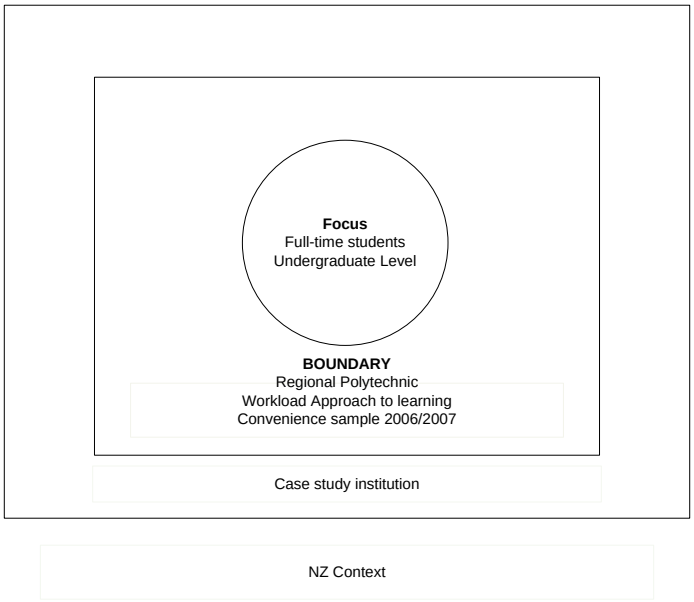

Figure 3. *Context of the Study*

Kember (2004) states that as "workload seems to be a complex construct it could perhaps be better examined through a limited number of rich cases. This would make it possible to do a detailed examination of the multiple factors which appear to be involved, and the complex way in which they interact together and influence each other" (p.168). This study involved a single-institution case study, with a detailed examination of a single group of undergraduate students, and blended a description of their perceptions with an analysis that attempted to portray how things happened at the polytechnic and why (Cohen et al., 2000; Merriam, 1998). Zepke et al. (2005) state that data that speaks directly to teaching and learning in a specific institution would have more impact on changing practice, which was a motivation for this study. Lonka Olkinuora and Makinen (2004)

believe that different learning environments may vary in terms of what is the most successful approach. Moreover, McInnis et al. (2000) claim that within institutions there are important differences at the level of the course and the department that can only be gleaned from systemic case studies. These arguments would appear to support the usefulness of the single-site case study approach in this research.

Anderson (1998) advocates intrinsic case studies that are undertaken because the researcher wants a better understanding of a particular case. This research involved an intrinsic case study where generalization was not emphasized, although the findings may provide useful information for other similar polytechnics reviewing their teaching and learning environment.

To overcome possible bias, Bassey (1999) believes the researcher must have respect for the truth and suggests that listening intently and recording accurately must be part of the research design. In this study interviews were transcribed verbatim and participants were encouraged to check these to ensure the integrity of the written record of their conversation. Researchers also need to be aware of their own bias and can minimize problems by stating biases and having a supervisor to play devil's advocate (Marshall & Rossman, 1999). This approach was applied in this study.

Summary

It is well established that facts are facts only within some theoretical framework (Guba & Lincoln, 2004) so it is important to keep in mind throughout the study that the theoretical framework underpinning this research is a pragmatic paradigm using a mixed method approach. The aim of collecting quantitative data was to provide an initial overview of the problems students perceived and the approach to learning they reported adopting. The aim of collecting qualitative data in this research was to provide a "thick description" (Geertz, 1973 cited in Shaffer & Serlin, 2004) of the teaching-learning environment at the polytechnic. Both forms of data need to be analysed together with one informing the other, as required for a mixed method approach, keeping in mind that "every method of data collection is only an approximation of knowledge. Each provides a different and usually valid

glimpse of reality" (Warwick, 1973, p.190 cited in Slekar, 2005). The following section discusses the instruments used to generate data in this study, questionnaires and interviews, and justifies the use of these.

Data collection instruments

Questionnaires

Well constructed questionnaires permit the collection of reliable and reasonably valid data in a simple, cheap and timely manner (Anderson, 1998). Entwistle et al. (2003) agree that the strength of questionnaires "lies in the description of a recognizable reality in accessible and parsimonious terms" (p.91). A questionnaire was used in the first part of the study because it was a relatively simple and quick method of building a general picture of perceived workload problems with a specific group of students in the polytechnic and their reported approaches to learning.

McCune (2003) states that questionnaires have the potential to provide valuable insights when used across large samples to identify areas that might warrant further investigation, particularly when backed up by qualitative data such as interviews, which is the approach adopted in this study. The first part of the questionnaire was designed to identify which particular issues were impacting on perceived workload in this context. This was guided by the literature which suggests a number of potential workload problems.

Limitations of questionnaires

Questionnaires have a number of limitations, one of which relates to analysis of the data. Mitchell (2000) is scathing of the way researchers treat ordinal data. He contends that is very unlikely that identical scores represent students with identical answers, yet researchers usually treat questionnaires as if they were sharply defined intervals scales. He adds that "another conceptual blunder is to add the so-called scores for several questions to get a 'total' for that subscale which carries a label supposedly denoting a variable" (p.52). This is a legitimate criticism but the data in this study were analysed in this way in order to

follow the instructions for the ASSIST instrument. This was considered acceptable as it had been extensively tested and validated. Nevertheless the results must be viewed with this criticism in mind.

Richardson (2004) states that questionnaires cannot be regarded as objective or unbiased measures of some underlying psychological reality. Respondents are unable to "calibrate their understanding of the individual items against the meanings that were intended by the person who originally devised the questionnaire" (p.185). He argues that in the absence of any explicit feedback, respondents will use cues that allow them to make pragmatic inferences about the intended meaning.

There is also a potential problem with the amount of care respondents take in answering questions. Entwistle and McCune (2004) caution that the longer the inventory the less care students take in completing it. The instrument used in this research took less than 15 minutes to complete in recognition of this problem. Furthermore, Marshall and Rossman (1999) state that assumptions are made that people will not lie when they fill out a questionnaire, or that people understand themselves well enough to fill out the questionnaire accurately. Researchers must rely totally on the honesty and accuracy of participants' responses and this may limit the usefulness of data from questionnaires (McCune, 2003). The questionnaire used in this study relied on the honesty of respondents but accuracy was not an important issue as responses involved student's perceptions which are neither right nor wrong.

Richardson (2004) states that students may not have retained an accurate record of the mental activities involved when self-reports are used. In completing the instrument in this study it is possible that some respondents did not have accurate recall when considering their study habits for the approach to learning section of the instrument.

Marshall and Rossman (1999) argue that questions used should be examined for bias, sequence, clarity and face validity. Richardson (2004) called into question the elaborate wording of questionnaires devised prior to the 1990s, which was incompatible with the student population in higher education today. He

also raised the possibility of response bias and argued that commonly used questionnaires on student learning make little or no attempt to control for this. The inventory used to gauge approaches to learning in this study was up to date, using wording related to students' everyday study experiences rather than psychological jargon, and was extensively tested and validated (Entwistle, Tait & McCune, 2003).

It is also argued that a lack of distinction between levels of context (general, course-specific, or situational) seems to have caused many kinds of conceptual and methodological confusions and problems of interpreting empirical results (Entwistle et al., 2002; Lonka et al., 2004). The context for this study was stated as the general programme level for Part A of the inventory and course-specific level for Part B.

Carspecken (1996) warns that in designing research instruments certain assumptions are made about social reality and human experience, which are always highly contextualized. He states that "the contexts of action and experience are holistic: they are not in essence a set of discrete terms readily translatable into discrete 'variables'. So making them discrete conceptually can greatly distort our understanding of what is taking place" (p.25). This study looks to overcome this possibility using interviews to inform understanding of what is taking place.

McCune and Entwistle (2000) state that questionnaires do not adequately describe the day-to-day reality of individual students' learning, so follow-up interviews are necessary to provide insights into student diversity. McCune (2003) adds that questionnaires have limitations in terms of fully describing a phenomenon in a given setting due to the complexities of the area. Therefore, some limitations of questionnaires can be compensated for by the strengths of a complimentary method, and in this study questionnaires were followed by in-depth, semi-structured interviews in order to understand deeper perspectives captured through face-to-face interaction.

Questionnaire used in this study

There are a number of inventories that have been developed that gather information on students' workload (Richardson, 2000). The Students' Evaluation of

Educational Quality (SEEQ) instrument for example uses four workload items; difficulty, workload, pace and hours/week outside of class (Marsh, 2001). However, there is no previously developed instrument that specifically addresses the first two research questions, designed to find out if students perceived workload as a problem at the polytechnic being investigated, the magnitude of the problem, and the reasons for this, so one was developed specifically for this purpose. This constituted Part A of the questionnaire.

Part A

Instructions required respondents to complete this part of the questionnaire from the point of view of their total programme of study to reflect the cumulative effects of all their study requirements. Respondents were requested to answer yes or no to the first question: *The workload I have experienced in my programme of study has always been manageable* (See Appendix B p.172). This question was designed to establish if a respondent perceived their workload to be manageable at all times, or unmanageable or heavy at times, to answer the research question regarding the magnitude of the perceived workload problem at the polytechnic. The qualifying term *always* manageable was used, when referring to workload, to reflect the reality that a student may only feel that their workload is unmanageable at certain times during the semester, such as when several assessments are due at once. If respondents answered 'yes' to question 1 then they moved straight to Part B of the questionnaire.

Respondents who answered 'no' to question 1 then completed question two, which was designed to generate data to contribute towards answering the second research question *What reasons influence students' perceptions that their workload is heavy or pressured?* (See Appendix B p.173). This consisted of a list of 16 reasons compiled from the literature that resulted in perception of a heavy or unmanageable workload. Firstly respondents had to tick all of the reasons they felt contributed to their workload problems. Secondly they had to choose their top five reasons and rank these 1 to 5 where 1 was the highest. Respondents were also asked to indicate the average number of hours worked for those with part-time jobs and list any other reasons not covered that they felt affected their perception of

workload as it was possible there were problems in this context that had not been found in previous studies. The instructions stated that this part of the questionnaire should be completed with all the courses in the student's programme in mind in recognition that it is the student's total programme which influences perception of workload.

Part B

Part B of the questionnaire was used to partially answer the fourth research question concerning what approaches to learning students reported. Students had to answer this part with only one course in mind as approach to learning is context dependent, varying from course to course, and this was a requirement of the instrument used. A number of inventories have been developed to collect data on students' approaches to learning (Biggs, 1987) however, the Approaches and Study Skills Inventory for Students (ASSIST) instrument was selected for this study because it covers the three dimensions that were investigated in this study: deep, surface and strategic. There are continuing debates in the literature about how many dimensions are actually needed. Richardson (2000) for example sees no advantage in including the strategic dimension but Entwistle and McCune (2004) argue that their "analysis of six different inventories leaves the strong impression that at least three dimensions are required to cover the main elements of variance found in studying" (p.341).

The full ASSIST instrument consists of seven sections, but only Section D, related to the three approaches to learning, was used (See Appendix B p.174). In the full version of Section D, for each of the three dimensions there are three subscales followed by one or two related subscales; a total of 52 items. The documentation provided with the instrument states that 'the first three subscales in each approach are most consistently related to each other, and can be combined with confidence. Subsequent sub-scales are more likely to vary in their relationships across different samples" (Entwistle, Tait et al., 2003). Therefore, only the first three subscales for each approach were used in this study, which

reduced the number of items to 36 (see Appendix A) and also reduced the time taken to answer the questionnaire.

The items consist of statements made by undergraduate students when asked what they usually do when they go about learning e.g*. I think carefully and try to reach my own conclusion about what I'm studying.* The participants indicate their relative agreement with these statements by choosing a number from 1 (strongly disagree) to 5 (strongly agree) and they were instructed not to use number three (unsure) unless they really have to or if the statement does not apply to their learning situation. The instrument was designed to focus on a specific course the respondent is undertaking, as approaches have been shown to vary from context to context (Ramsden, 2003). Descriptions of the development of this inventory can be found in Tait et al. (1998).

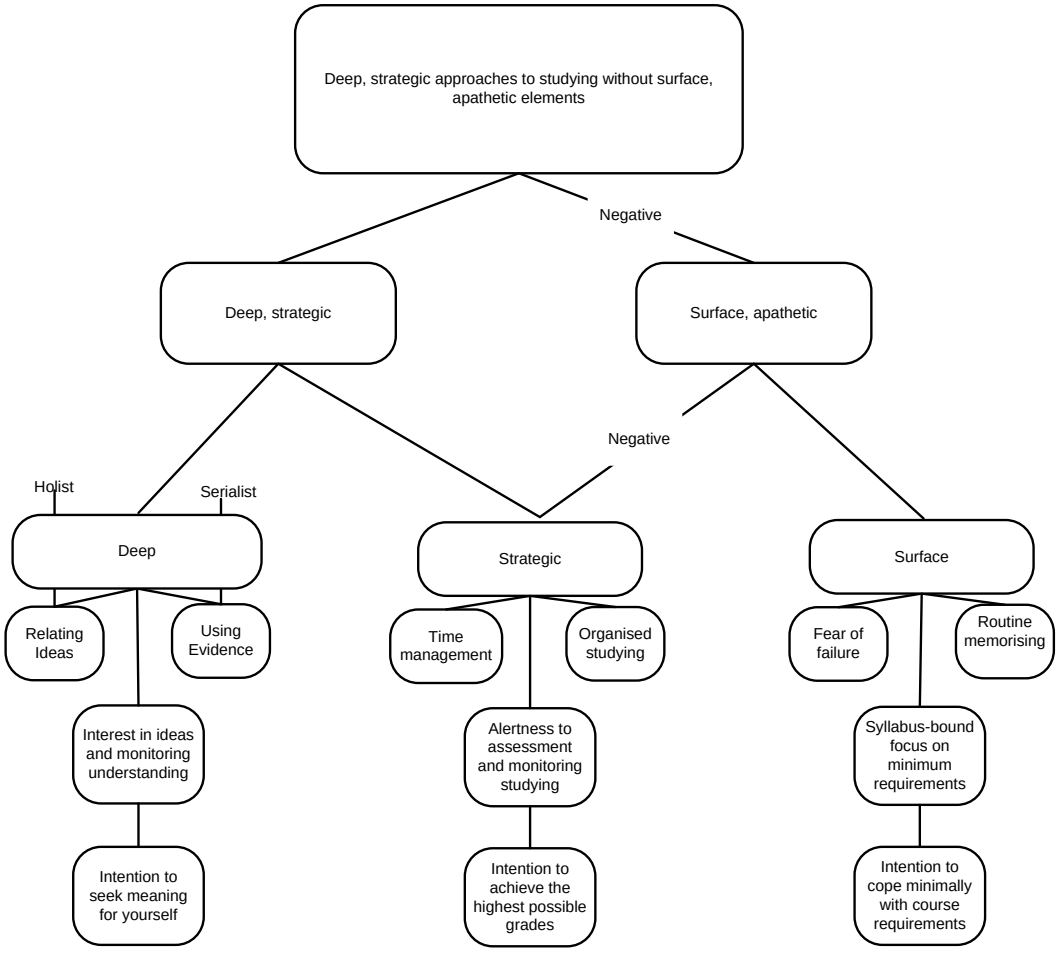

Figure 4 *Components of the ASSIST Inventory*

Entwistle et al. (2003) point out an important caveat regarding the results when they validated the ASSIST instrument. The categories can only be used to describe the relative prominence of each approach to learning in any student and they state it is wrong to try and put any student wholly into any one category.

Figure 4 (Entwistle et al., 2003, p.5) presents a conceptual mapping of the three approaches represented in the ASSIST instrument. It can be seen that Pask's (1976) two styles of learning, holist and serialist, are subsumed within the definition of the deep approach, which is taken to require both ways of thinking.

Entwistle, Tait and McCune (2000) refer to "generally coherent patterns of response" (p.33), which are the deep-strategic approach, generally associated with successful academic performance (Entwistle, 2000), and the surface-strategic approach, indicative of achievement with lack of understanding or not going beyond the content presented.

However, atypical patterns of learning have been found in studies that elude rational interpretation (Meyer & Muller, 1990). An earlier study by Entwistle, Meyer and Tait (1991) linked successful students to these coherent patterns but the factor analysis for the unsuccessful students produced only "bizarre and uninterpretable combinations of loadings" (p.252). Therefore, Entwistle et al. (2000) warn against assuming that the general pattern applies to all students. Their later study also produced evidence of a substantial sub-group of students with unexpected, patterns of response, combining high scores on the sub-scales of both deep and surface approaches. They found confusion in some responses with intention to seek meaning in the course combined with syllabus-boundness, for example. Meyer (2000) agrees that the general pattern does not necessarily apply to all students. He referred to 'dissonant' aspects in inventory response data where there is "a lack of response discrimination between discrete aspects of learning engagement that are *theoretically incongruent* with one another" (p.6).

Where these dissonant patterns of response are found, Meyer (2000) argues that the default conclusion is usually that results do not match the theory "for reasons attributable to methodological ineptitude, or some form of measurement error" (p.6). However, Entwistle et al. (2000) state that the precise

nature of the dissonance found is not yet clear but possible explanations include that there may be a tension between personal intentions and pressures to conform to external assessment requirements, or that the weak academic performance of some students lies in a mismatch between the deep outcomes they are seeking and their ability to achieve them.

Part C

Part C included an invitation to be interviewed about responses to the questionnaire (See Appendix B p.176). Respondents who wished to volunteer were asked to provide preferred contact details. They were informed that the interviews would take approximately 45 minutes and that they could change their mind when contacted to arrange an appointment.

Interviews

Qualitative interviews can be used to obtain in-depth information about a participant's thoughts, beliefs, reasoning, motivations, and feelings about a topic. They can help to gain an understanding of an individual's perspective (Johnson & Christensen, 2004), which, in this section of the study, involved reasons for perception of a heavy workload and any impact this had on approach to learning.

Seidman (1998) recommends tape-recoding the interviews and transcribing them as "the participant's thoughts become embodied in their words" (p.97). He states that although inevitably the researcher's consciousness will play a major role in the interpretation of interview data, consciousness must interact with the words of the participant recorded as fully and as accurately as possible. He adds that the researcher can return to the source to check for accuracy and being able to go back to original sources can also demonstrate accountability to the data.

It is important to choose an interview type that fits the purpose of the research. If the purpose is to gain comparable data across people or sites, a more standardized, quantitative, structured interview process is required. In a structured interview the interviewer asks all respondents the same series of pre-established questions, in the same order, with a limited set of response categories. The

interviewer records the responses according to a coding scheme that has been established. There is very little flexibility in the way questions are asked or answered, and interviewer is regarded as distant and rational. These quantitative interviews are formal and carefully pre-planned and piloted, with data analysis being relatively straightforward (Cohen et al., 2000).

Where the purpose is to acquire personalised information about how individuals view the world, which was the case in this study, then a qualitative, open-ended, semi-structured or unstructured interview is required (Cohen et al., 2000). This type of interviewing can provide a greater breadth of data in an attempt to understand the complexities of a context (Fontana & Frey, 2003). The interviewer needs to be armed with prompts to use when greater clarity or depth is needed from the person being interviewed, and follow up questions may be asked that emerge naturally during the interview (Johnson & Christensen, 2004).

These interviews allow the interviewer to make a sound assessment of what the respondent really believes. Moreover, if a question is not understood the respondent has the opportunity to ask for clarification, and inconsistent or vague replies from respondents can be questioned. They also have the advantage that they are quicker to commence and gather data, as categories do not need to be worked out in advance, but they do take considerably longer to analyse. Open-ended interview situations can, moreover, result in unanticipated answers which may suggest relationships that had not previously been thought of (Cohen et al., 2000).

Entwistle (1997) argues that there is great advantage to be gained by allowing the interview to develop as a natural conversation and a discussion, although guided by a pre-determined framework. He argues that introducing set questions often inhibits the development of ideas, and seems to encourage short, unelaborated answers. Where the interviewer contributes to the effort to explore the student's interpretation of experiences, he claims much fuller descriptions are provided, which is the aim of this research.

Limitations of interviews

The interview technique is time-consuming and one of the most difficult to employ successfully. The objectivity, sensitivity, and insight of the interviewer, are crucial so this technique is one that requires a level of expertness not ordinarily possessed by an inexperienced researcher (Best & Kahn, 2006). The main issue with the use of the interviews to collect and analyse data relates to the problem of bias. Interviews provide information "filtered" through the views of the interviewer who then selects and summarises respondents' views in the research report (Creswell, 2005, p.215). Anderson (1998) agrees that it is possible that the biases and values of a researcher may heavily influence the asking of questions, recording and analysing of data. Therefore, it is important for the researcher to declare any bias that may affect what data is used and how the data is interpreted. This can be found in the introduction to this study.

Sources of bias also include the content of the questions, characteristics of the interviewer, and characteristics of the respondent. It is suggested that careful formulation of questions, so the meaning is clear, is a means of reducing bias (Cohen & Manion, 1994). When formulating the questions an interviewer has to consider the extent to which a question might influence the respondent to show herself in a good light, or the extent to which a question might influence the respondent to be unduly helpful by attempting to anticipate what the interviewer wants to hear (Cohen et al., 2000; Creswell, 2005). A further problem is that there may be misunderstanding on the part of the respondent of what is being asked (Cohen & Manion, 1994).

The attitudes and opinions of the interviewer, a tendency for the interviewer to seek answers that support preconceived notions, or misperceptions on the part of the interviewer of what the respondent is saying, can all create bias. Unstructured or semi-structured interviews require skill on the part of the interviewer to probe opinions and attitudes without directing what the respondents have to say. In free-response questions, such as *Tell me about your time management skills,* the interviewer must keep respondents on the topic without influencing their responses (Cohen & Manion, 1994).

Many studies have been conducted in which interviewers of different status have interviewed the same respondents. The responses were often substantially different both in how much the subject was willing to reveal, and the nature of the attitudes expressed. The same relationship seems to prevail when the social status of the interviewer and respondent is different, and even the interviewer's clothing may have an inhibiting effect (Best & Kahn, 2006).

In addition, any imbalance of power relationships, and levels of past interactions between researcher and participant, may affect interview results (Anderson, 1998; Merriam, 1998). In this study there was no previous, direct relationship between the participants and me, although the issue of any imbalance of power relationships would still exist.

Data collection procedures

This section outlines the steps involved in collecting the data starting with ethical approval, piloting Part A of the questionnaire, administering the questionnaire, formulating the interview questions then collecting the interview data.

Ethics

Ethical approval was obtained from the Massey University Human Ethics Committee in May 2006. A Low Risk Notification was submitted stating that questionnaires were to be distributed in two separate envelopes so Part A and B could be kept completely separate from Part C to preserve anonymity. However, this procedure was subsequently changed following the critique of the research proposal by the Massey University EdD (Doctor of Education) panel. The panel approved the idea of being able to identify the questionnaire responses of those respondents being interviewed so they could be compared, allowing the three parts to be issued in one envelope. Ethical approval was sought for this change and the Ethics Committee requested another screening questionnaire, paying particular attention to question 9, informed and voluntary consent. This was judged to still meet the criteria for low risk status, and approval was confirmed in October 2006.

All possible steps were taken to ensure that the research was conducted ethically. Questionnaires are an intrusion into life of respondents in terms of time taken to complete the inventory or possible invasion of privacy (Cohen et al., 2000). Therefore, it was important to be honest and open about the time needed to complete the inventory, and to inform participants of their right to discontinue at any time or leave out any questions they are not comfortable with (Anderson, 1998). Participants in this study were informed that it should take no longer than 15 minutes to complete the inventory and they were informed in the information sheet (see Appendix C) about the right to withdraw, which was discussed before they started. It was also important to respect participant's time during the interview process by not asking irrelevant questions (Anderson, 1998), therefore, the interview was kept strictly on track and carried out in the minimum amount of time needed to gather the necessary information.

Participants needed to give free and informed consent. Informed consent involves four elements: competence, full information, voluntarism, and comprehension (Cohen et al., 2000). Competence implies that responsible, mature individuals will make correct decisions if they are given the relevant information (Anderson, 1998). Students were told about the reason for the study and volunteers agreed to participate without coercion. Consent was taken as given if they filled in and returned the questionnaire.

Full information implies that consent is fully informed although in practice it is often impossible for researchers to inform participants on everything such as statistical treatment of data; and sometimes researchers themselves do not know everything about the investigation. Even providing partial information can be as misleading as withholding information, according to Eisner (1998). Every effort was made to provide all necessary information.

Voluntarism entails applying the principle of ensuring participants freely choose to take part (or not) in the research. It is important to recognise the power relations when the participants are students in a researcher's own institution. A researcher may be perceived as being in a position of power over the volunteers who are really subjected to coercion and may feel obliged to participate (Anderson,

1998). In addition, comprehension refers to the fact that participants fully understand the nature of the research project, although Frankfort-Nachmias and Nachmias (1992, cited in Cohen et al., 2000) state that this is desirable but not absolutely necessary to studies where no danger or risk of physical or emotional harm is involved, as in this study.

Confidentiality involves a clear understanding between the researcher and participant concerning how the data provided will be used and assumes that the reader of the research will not be able to deduce the identity of any individual (Anderson, 1998). Anonymity means that information provided by participants should in no way reveal their identity (Cohen et al., 2000). Respondents completing only Parts A and B of the instrument which bore no identifying marks were ensured anonymity, whereas those completing Part C of the questionnaire, agreeing to a face-to-face interview, could not expect anonymity but were promised confidentiality.

The participant's right to privacy must be protected and they have a right to decide what aspects of their personal attitudes, opinions, habits, and fears are to be communicated or withheld from others (Anderson, 1998). Furthermore, Eisner (1998) cautions that people seldom get the opportunity to be listened to carefully over an extended period of time and researchers are likely to elicit information that individuals do not even know they are providing. Therefore, participants were given the chance to check their transcripts and delete any information they felt they wished to remain private, before the data was analysed.

To ensure confidentiality of transcripts, codes were used and data protected so no one else had access. Interviews were recorded and tapes were destroyed as soon as the interview was transcribed but transcriptions were to be kept for five years. The transcriber also signed a confidentiality agreement, in accordance with Massey University policy (see Appendix D).

Pilot of workload questionnaire

Part A of the instrument was tested in June 2006 on a group of 30 undergraduate student volunteers, to establish whether the questions were clear

and if there were any other reasons students could add that were not listed. It was established that it took less than 10 minutes to complete and also indicated that the instructions were clear and easy to follow. Suggestions were made about the sequencing of questions, a couple of questions were found to be confusing as they were asking two things so it was difficult to know which part to respond to, but no other reasons for a perception of an unmanageable workload were suggested. The questionnaire was amended in response to these suggestions.

The instrument was also critiqued by a panel of six lecturers from the Graduate School of Education at Massey University. The original version had a response scale of 1 to 5. A suggestion from the panel saw this changed to just ticking all the reasons respondents felt applied to them, then ranking the top five reasons to indicate which ones contributed most to a perception of heavy workload.

Once ethical status was confirmed by the Massey University Human Ethics Committee, permission was sought to carry out the research at the polytechnic. This involved notifying the Research and Ethics Committee of the nature and procedures of the project. The committee raised no issues, approving the project so data collection could begin.

Sample for questionnaire

The convenience sample used for the questionnaire involved any full time undergraduate students who volunteered to take part in the research. There were around 1000 full-time students enrolled at the time studying at these levels. Part-time students were excluded as they would have many different variables affecting their responses. Students absent from the targeted lectures were also excluded from the sample. Undergraduate students were targeted as they were generally unknown to the researcher and have a significant expectation of out of class study. In a course which has a total of 150 learning hours for example, it is stated in the syllabus that students are expected to spend 94 hours in independent study. Tables 1 and 2 give the demographics for the questionnaire sample. The two age

categories were chosen in order to compare the results in this study with those found by Sadler Smith (1996).

Table 1. *Number of Students in Each Faculty by Gender for Questionnaire Sample*

Faculty	Females	Males	Total
Arts & Social Sciences	87	9	96
Business & Computing	42	74	116
Science & Technology	8	22	30
Health & Sport Science	18	9	27
Total	155	114	269

Table 2. *Age Groups and Gender of Students for Questionnaire Sample*

Age	Females	Males	Total
Less than 23 years (<23)	69	48	117
Greater than or equal to 23 years (>=23)	86	66	152
Total	155	114	269

There was an excellent response rate of 77%, which may in part be due to the high salience of this issue for students, and the support of lecturers who allowed me to come into their classes, explain the study, hand out the envelopes, and in some cases arranged to collect them for me.

Three hundred and fifty questionnaires were distributed and 294 returned with 269 valid responses. Invalid responses for Part A included those who did not understand the instructions for rating their top five workload issues and rather than ticking all reasons they felt influenced their perception of a heavy workload and choosing the top five, they gave each reason a number. Those who chose one number to rate all questions in Part B on approach to learning, usually number three, were also discarded as invalid.

Sample for interviews

A convenience sample of 30 volunteers was sought for the interviews. Forty-six respondents had completed Part C of the questionnaire, offering to be

contacted about a follow-up interview. All these volunteers were contacted but only 20 of these were willing to make an appointment for an interview. The rest either did not make contact or declined when asked if they were still willing. Two of those who had made appointments did not turn up. Subsequent appointments were arranged but they still failed to keep these. This left a shortfall of 12 volunteers.

Courses across the campus involving undergraduate students were visited again, with the cooperation of course lecturers. They were reminded of the research and the survey carried out the previous semester and anyone interested in volunteering was requested to e-mail me to arrange an appointment. This continued until 12 more volunteers had been found. These volunteers had completed a questionnaire but unfortunately the questionnaire data could not be compared with their interview comments as they had not completed Part C of the questionnaire so their answers were anonymous.

Overall, I felt the resulting sample provided sufficient data for a range of student viewpoints as there were representatives from both genders in both age categories and each faculty, as shown in Tables 3 and 4. Two-thirds of the volunteers were female, which may be due to a number of reasons including the gender of the interviewer, or females could have felt more strongly about the issue. It is also interesting to note that demographics for the institution in 2006 showed that for full–time students enrolled in all courses, 63% were female, so females may also make up the majority in undergraduate courses.

Table 3 *Number of Students in Each Faculty by Gender for Interview Sample*

Faculty	Females	Males	Total
Arts & Social Sciences	4	0	4
Business & Computing	13	6	19
Science & Technology	0	2	2
Health & Sport Science	4	1	5
Total	21	9	30

Table 4 *Age Groups and Gender of Students for Interview Sample*

Age	Females	Males	Total
Less than 23 years (<23)	8	3	11
Greater than or equal to 23 years (>=23)	13	6	19
Total	21	9	30

Administering the questionnaire

The Deans of the four faculties were contacted and permission sought to approach their lecturers and students. This permission was granted and suggestions made concerning which Programme Coordinators or Heads of School to approach in order to reach the maximum number of students. This was carried out in an ad hoc way as it depended on which Programme Coordinators or Heads of School responded to my e-mail request, but all those who volunteered class groups were visited. The lecturers responsible for these classes were very supportive.

Over a period of four weeks in October and November of 2006 classes were visited where the research was explained including information regarding the purpose of the study, the anonymity or confidentiality aspect and the right to withdraw. Volunteers were called for and each was given an envelope containing the questionnaire. Each questionnaire was allocated a three digit code to keep track of what questionnaires had been issued and returned. For those that volunteered to be interviewed this number enabled them to be matched to their responses on Parts A and B. Completed envelopes were placed in a box either held by the lecturer or located in faculty administration offices. The data collection for the questionnaire was completed by mid-November 2006.

Procedures to analyse questionnaire data

The data were entered into an Excel spreadsheet. All demographic information was recorded, plus the number of hours worked in a part-time job. The number of respondents who ticked each reason listed was totalled and a percentage calculated for each. The same procedure was used to total the

number for the top five reasons. Questionnaires were checked to see if any further reasons had been added in the space provided for this.

This pointed to the issues which the respondents felt contributed most to their perceptions of a heavy workload and from this a number of interview questions were formulated to probe more deeply into the issues and how these affected the students (see Appendix E). For example, the questionnaire data indicated that the most important issue for students was the problem of assessments all due around the same time. The interview questions were designed to probe issues such as the number of assessments students may face at any one time, the affect on how they felt about their workload; what they did in response; and how they prioritized their workload.

Collection of interview data

Once the interview questions had been compiled, the interview process began at the start of the new academic year in February 2007. The first interview was transcribed and acted as a pilot for the interview process, but was still included in the analysis. In discussion with one of my supervisors, changes were made to make the questions more open-ended to ensure interviewees talked at length rather than giving one or two word answers.

At the beginning of the interview participants were reminded of the research topic and given the information sheet which outlined their rights. They were asked to sign a permission form for the interview to be taped. They were also offered the opportunity to review their transcript before signing a further consent form to give permission for material they contributed to be used in the thesis (see Appendix F).

The process was explained to the participants at the start. They were given the list of printed questions and invited to talk about any areas they felt were a particular problem for them and that they did not need to go through the questions one at a time and comment on them all. I explained the idea was for them to tell me about their workload problems and the questions were just there to prompt their thoughts. Participants were also asked to talk about their commitments external to the institution and the support they received from family or workplaces. They were

in control of the recording and if they wanted to stop and think they could use the pause button. I said very little, just the occasional clarification or probing question where necessary.

This process worked really well, particularly with the students who felt strongly about the workload issue, and once students got started they often needed very little prompting. Only one interviewee felt her workload was manageable had much less to say and I found I had to ask more questions to probe into why she felt she was coping well. Interviews ranged in length from 25 minutes to just over an hour depending on how much the student had to say.

Once the interviews were transcribed they were imported into NVIVO to be coded. Firstly it was necessary to find out what respondents were saying about the reasons given in the questionnaire for their perceptions of a heavy of unmanageable workload. Therefore, categories were created for areas listed in the questionnaire such as time management, motivation, and too many assessments. Further categories were created as data emerged from the transcripts that were not directly related to the original categories, such as approaches and effects on learning and feelings about workload. It also became evident that some of the original categories needed to be further refined. Time management for example, was further divided into categories such as procrastination. The resulting organisation of points facilitated the comparison of respondents' remarks about each issue, from which general patterns or differences could be discerned.

Limitations of the study

There are a number of methodological problems with the data collection procedures. Firstly, the findings from the quantitative data need to be viewed with caution for although the ASSIST instrument, used to collect data on students' approaches to learning, has been extensively tested and validated there are still methodological problems associated with the use of questionnaires, so the data provided in Part B of the instrument can only be taken as an indicator of the approaches to learning adopted by students in this study. There may have been

confusion where respondents were asked to change from thinking about their programme of study in Part A to concentrating on only one course in Part B, which could have been overlooked. In addition, there is always the possibility that respondents may have misinterpreted the meaning of the statements in the questionnaire, or they may not have retained an accurate record of past events.

Secondly, it is not possible to be completely objective as the comments from the interviews were interpreted through my perceptual filter, and another researcher could assign different meanings to the comments.

Thirdly, the use of volunteers could have introduced bias as those who felt strongly about the issue were most likely to respond. The demographics were widely disparate with 27 in one faculty for example compared to 116 in another. It was also unfortunate that all the interview data could not be compared to the questionnaire data.

Chapter summary

This research is based on a case study, underpinned by a pragmatic paradigm, involving a mixed method approach, integrating both quantitative and qualitative data. Each of these areas was discussed with evidence presented to support and justify the research methodology adopted in this study. There is support in the literature for the notion that the pragmatic paradigm offers a plausible solution to the problem of mixing the paradigms usually associated with quantitative and qualitative methods. Justification was given to use statistics in analysing the questionnaire data without linking this to a positivist stance. It was also discussed that concepts of truth and reality can be avoided in this practical research philosophy. Although the pragmatic paradigm and mixed method approach are still currently being debated with some problems still to be addressed, it was felt that this approach was the most suitable to answer the research questions posed in this study. The results from the case study may not generalise to other settings but fulfill the aim of making a contribution to the

teaching-learning environment at the regional polytechnic where the study was carried out.

The data collection instruments were discussed and justified along with the limitations of these. The problems associated with the data generated in inventories were discussed and it is important to recognise these in interpreting the data collected in this study. The problem of interview bias was also discussed. Procedures for data collection and the convenience sample used were described and it was shown how all ethical considerations were dealt with. The data from the questionnaires and interviews were analysed together in line with a mixed methods approach and the results are discussed in Chapter Four.

CHAPTER FOUR
Data Analysis

Introduction

This chapter integrates the analysis of data from parts A and B of the questionnaire with comments from the interviews, in keeping with the mixed methods approach. Each of the four research questions are addressed with reference to what the data indicated. The first research question considers whether there is a perception of a heavy workload at the polytechnic and analyses the data from question one of Part A in the questionnaire plus the demographic information respondents provided. For research question two, the reasons chosen in Part A of the questionnaire for a perceived heavy workload are presented and comments from the interview data are used to indicate why students consider these as problems, and their experience in relation to these issues. What students do in response to a perceived unmanageable workload is presented for research question three, relying exclusively on interview data. Data from parts A and B of the questionnaire and the interviews are combined to address research question four, considering the relationship between workload and students' approach to learning.

Research Question 1

Is there a problem with perceived workloads?

The results of Part A of the questionnaire indicated a perceived problem with the workload required for undergraduate students, with the majority of respondents, 61% (165 out of 269), indicating that there were times when they felt their workload was heavy or unmanageable. A comparison was made between genders using the raw data shown in Table 5. A chi-squared test comparing observed proportions to expected proportions for gender (Chi-square value = 4.03, $p < 0.05$ $df1$) revealed a significant difference between males and females.

Table 5. ***Manageability of Workload by Gender***

	Perceived workload manageable	Perceived workload heavy or unmanageable	Total
Females	52	103	155
Males	52	62	114
Total	104	165	269

Analysis indicated that males were fairly evenly divided in their perception of workload. Twice as many females reported perceiving their workload as heavy compared to females who felt it was manageable, as illustrated in Figure 5 where the raw data is expressed as percentages.

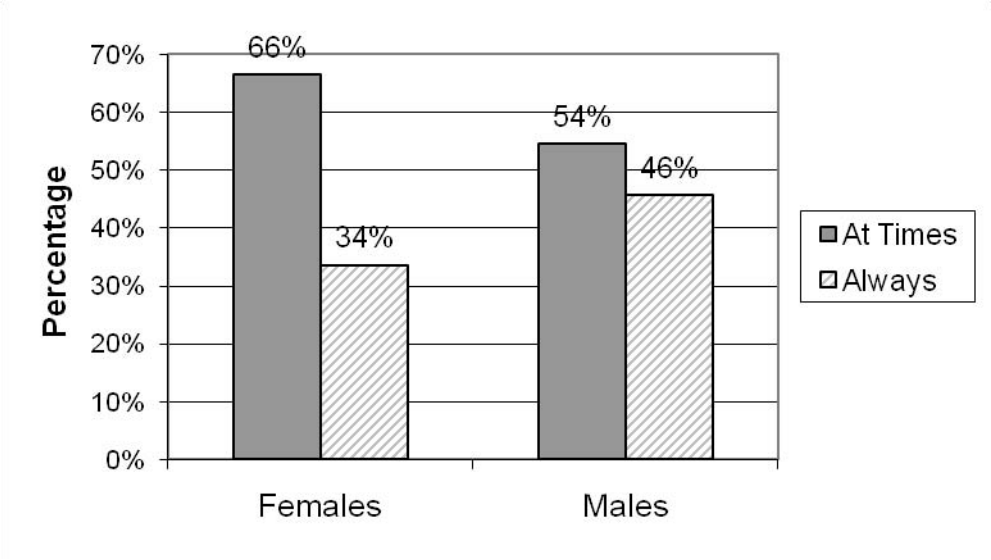

Figure 5 *Manageability of Workload by Gender*

A comparison was then made between the age groups. A chi-squared test was performed on the raw data in Table 6 (Chi-square value = 1.45, p> 0.2 *df* 1) which revealed no significant difference between age groups.

Table 6 ***Manageability of Workload by Age***

	Perceived workload manageable	Perceived workload heavy or unmanageable	Total
<23 years	50	67	117
>=23 years	54	98	152
Total	104	165	269

It can be seen in Figure 6, where the raw data are expressed as percentages, that the majority of respondents in both age brackets found their workload to be heavy or unmanageable at times.

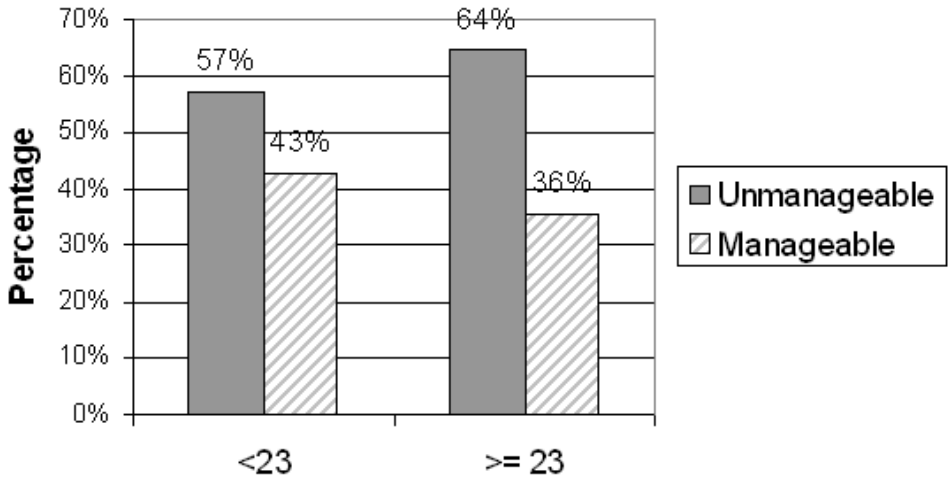

Figure 6 *Manageability of Workload by Age*

When the data related to the faculties was analysed it was clear that the Faculty of Arts and Social Sciences had the largest proportion of students, 76% (73 out of 96), indicating that their workload was unmanageable at times (see Figure 7).

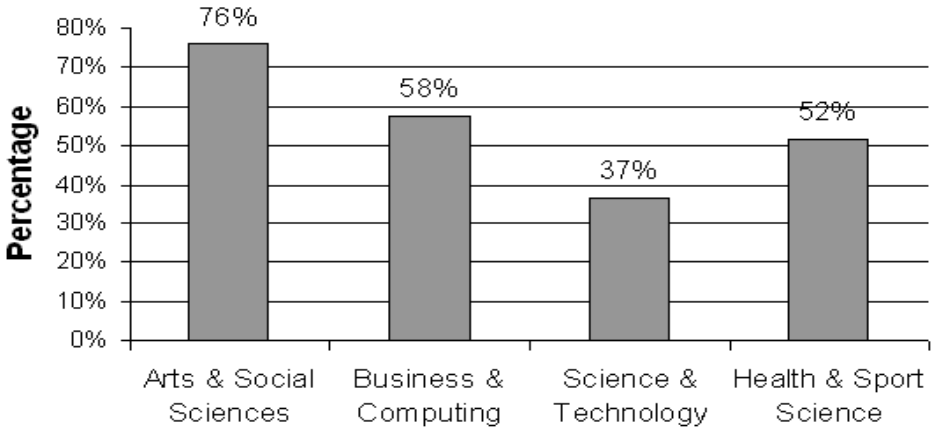

Figure 7 *Manageability of Workload According to Faculty*

A chi-squared test conducted on the raw data (see Table 7) for the faculties (Chi-square value = 18.1, $p < 0.05$ $df 3$) indicated a significant difference between the data for the faculties.

Table 7 ***Manageability of Workload by Faculty***

	FASS	FB&C	FS&T	FH&SS	Total
Perceived workload heavy or unmanageable	73	67	11	14	165
Perceived workload manageable	23	49	19	13	104
Total	96	116	30	27	269

A higher percentage of respondents in the Faculty of Arts and Social Sciences, which included a disproportionate number of females, perceived the workload to heavy or unmanageable at times. A Chi-squared test (Chi-square value = 77.28, $p<0.001$ $df 3$) carried out on the raw data in Table 8 for gender in the faculties found a significant difference, which may indicate why this result was obtained.

Table 8 ***Manageability of Workload in Faculties by Gender***

	FASS	FB&C	FS&T	FH&SS	Total
Females	87	42	8	18	155
Males	9	74	22	9	114
Total	96	116	30	27	269

The magnitude of the perceived problem with workload may be higher than these figures indicate. Twenty nine out of the 30 students interviewed admitted to workload pressures and negative stress, with one exception, a student who felt she could cope adequately with the workload and believed that it was a matter of good time management and being well organised.

"*If you start your assignments when they're given and not two weeks before they're due then you really shouldn't have a problem. I haven't had any problems getting my assignments in on time. You've just got to think about things when you get them and start working on them or allocate a certain amount of time and basically just be strict on yourself*." **(S308)**

Of the 18 out of the 30 whose responses to the questionnaire could be compared to the interview comments, seven of the students had indicated that they perceived their workload to be manageable on their questionnaire but four had changed their perceptions when interviewed. One of the reasons for this was that when they were in the first year of the degree studying at level five they perceived the workload to be less pressured since they had just left school and had been covering subject content little different from year 13 subjects. However, when interviewed towards the end of the first semester studying at level six they had changed their perceptions of the workload. For example, Student 11 stated that:

"*This year I'm just like there're not enough hours in the day and I feel like I'm working ten times harder and not getting anywhere*."

Another respondent admitted to feeling under greater pressure because more understanding was required at level six than there had been at level five which made the workload appear more unmanageable.

"Between this year and last year I think it's not so much more assignments but it's harder to understand." **(S110)**

Another reason that some students had indicated on the questionnaire that they perceived their workload to be manageable was that they assigned internal attributions to their perception of workload, recognizing that their own expectations and high standards determined the amount of stress and pressure they felt. They did not see the workload per se as a problem and did not look to external reasons for a heavy workload, blaming the institution or lecturers, but saw this as self-induced pressure like Student 10 who stated *"I'd try and push myself a lot to do well so I think I put pressure on myself*." On the other hand students who had indicated in the questionnaire that their workload was unmanageable at times also admitted to putting pressure on themselves.

"*I feel that a student's workload is largely determined by themselves and what pushes it all is their level of commitment and the level of achievement that they can settle with. If a student just wants to pass with average marks then obviously the pressure is not going to be as great as a person who is really committed and driven to succeed with As."* **(S309)**

In the questionnaire Student 103 had also indicated that the workload was manageable, but during the interview he recognised that there was pressure at times. *"It probably is quite full on when you stop and think about it*." However, he had a positive attitude and accepted this pressure as it resulted in a longer term reward. "*It's necessary to have the pressure. You just have to work hard. If it was too cruisy then you wouldn't have that much of a sense of accomplishment at the end, and it is a degree after all*."

When respondents were asked to estimate the amount of time in a semester that they felt pressured, a range of answers was given from 30% up to 90% and these appeared to be related to the faculty a student was enrolled in. A student from the Faculty of Science and Technology for example stated "*I'd say 30% of the time is pressured apart from exams."* **(S311)** Conversely, students from the Faculty of Business and Computing generally estimated the pressure at the other end of the spectrum.

"It's just crazy and you don't feel like you're not under pressure at any time, so I think it's almost like a 90% pressure." **(S11)**

One business student even claimed it felt more than 100%.

"*It feels like you're working in what feels like sometimes 110% capacity. It needs to be managed more so students do not start to suffer from burn-out."* **(S149)**

Summary

In addressing the first research question, analysis of the responses did signal an issue with a heavy perceived student workload with the majority of respondents to the questionnaire perceiving their workload to be heavy or unmanageable at times, and 29 out of 30 interviewees also perceiving their

workload as heavy, leading to negative stress and pressure. The perceptions of some respondents had changed between first and second year courses and others indicated in the interviews that the negative stress experienced was due to their own self-imposed standards. The data also indicated that workload appeared to be a particular problem for females and in all the faculties. The next research question looks at what reasons influences these perceptions.

Research Question 2

What reasons do students give for their perception that their workload is heavy or unmanageable at times?

Figure 8 lists all the reasons for a perception of a heavy or unmanageable workload at times given in Part A of the questionnaire in the order of the number of respondents who ticked each one (n=165).

	Reasons	Number	Percentage
1	Assessments all due around the same time	149	90
2	Part-time job	116	70
3	Problem with time management	109	66
4	Difficulty knowing what to focus on when studying	97	59
5	Family commitments	97	59
6	Too many topics to cover in a short time frame	80	50
7	Lacking motivation	79	48
8	Lecturers assuming the required skills to complete an assessment	67	41
9	Socializing	50	30
10	Not having the required skills for an assessment e.g. how to write an essay	44	27
11	Over-assessment of courses	40	25
12	Not being able to get help with study when needed	36	22
13	Health problems	31	19
14	Not knowing the reason why you are required to do a particular assessment	24	15
15	Not knowing how to access help	18	11
16	Enrolled in wrong course due to poor advice or lack of advice	10	6

Figure 8. *Reasons Influencing Perception of Heavy or Unmanageable Workload*

This can be compared to Figure 9 which shows the number of respondents who ranked each reason in their top five, as a percentage of the total number who

perceived their workload to be unmanageable at times (n=165). The order of reasons in the two tables is very similar.

	Ranked as one of Top Five Reasons	Number	Percentage
1	Assessments all due around the same time	138	84
2	Problem with time management	98	59
3	Part-time job	93	56
4	Difficulty knowing what to focus on when studying	74	45
5	Family commitments	72	44
6	Too many topics to cover in a short time frame	59	36
7	Lacking motivation	57	35
8	Lecturers assuming the required skills to complete an assessment	44	27
9	Over-assessment of courses	24	17
10	Socializing	24	15
11	Not having the required skills for an assessment e.g. how to write an essay	24	15
12	Not being able to get help with study when needed	23	14
13	Health problems	19	12
14	Not knowing the reason why you are required to do a particular assessment	11	7
15	Enrolled in wrong course due to poor advice or lack of advice	5	3
16	Not knowing how to access help	4	2

Figure 9. *Ranking of Reasons*

The top eight reasons remain the same apart from part-time job going from the second highest reason to being ranked third, and a problem with time management taking the second slot. Over-assessment of courses, socialising, and lecturers assuming students have the required skills to complete an assessment, all rated about the same with slight changes in order between Figures 8 and 9.

Respondents were given space to write any other reasons for their perception of a heavy workload on Part A of the questionnaire but no further reasons were given. The influences on perception of workload listed in the questionnaire are divided into those pertaining to the institution and those attributable to the individual student as a way of organizing the analysis. However, it should be recognized that the picture is more complex than this suggests. For example, a student's perception that that there are too many assessments in a short time frame may be related to their time management skills.

Reasons related to the institution

Data from Part A of the questionnaire covering reasons related to the institution are discussed and integrated with interview comments to explore the issues in more depth and how respondents view these. The reasons include assessment and curriculum issues, generic study skills, support available, and enrolment advice.

Assessment issues

It can be clearly seen from Figures 8 and 9 that the number one issue for respondents was the problem of assessments all due around the same time, with 90% citing this as a reason, and 84% ranking it in their top five. It can be seen in Figure 10 that 56% ranked this as their number one reason, well above the other rankings, where one is the most important reason for a heavy perceived workload and five the least important reason. Twenty eight out of 30 interviewees complained about the large number of assessments all due around the same time. Student 310 for example, stated in her interview:

> "*I've got in the week that just went by, a presentation that I have done an assignment for a week before, then had to revise the article and the questions for the presentation in one day. Then, the next day, had a test and two days after that I had to hand in an assignment. So that's quite a heavy load of all things all due in at the same time and I started all of them like 3-4 weeks before*."

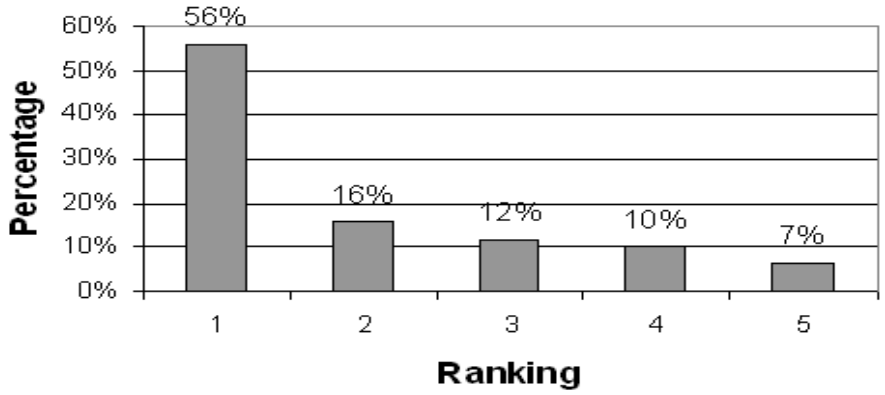

Figure 10. *Rankings for Assessments All Due Around Same Time*

Figure 11 shows the percentages for the faculties related to assessments all due around the same time and it can be seen that this is a problem right across the institution. Ninety three percent of respondents in the Faculty of Business and Computing (62 out of 67) and the Faculty of Health and Sport Science (13 out of 14), who found their workload to be heavy at times, cited this as a reason. Student 18 from the Faculty of Business and Computing stated:

> "*We would have up to at least four assignments due at any one time, that's excluding the tests so it became a very heavy workload*."

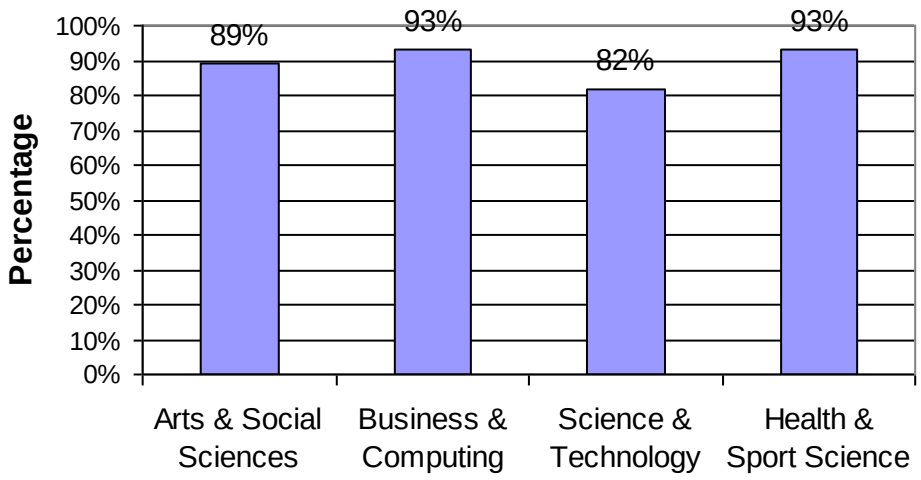

Figure 11. *Percentage in Each Faculty That Indicated Too Many Assessments Due Around the Same Time as a Problem*

Interviewees such as Student 103 pointed to the problems this caused:

> "*I feel a bit of stress and a bit of frustration probably as well when assessments are all due around the same time. Three out of my four papers have an assignment within two days of each other, you know."*

In comparison, over-assessment of courses was cited by 25% of the students in the questionnaire and ranked ninth overall, with 17% (24 out of 165) of respondents ranking it in their top five. None of the students interviewed actually stated that the courses were over-assessed. The number of assessments was not listed as a reason for perception of a heavy or unmanageable workload in the questionnaire, however, the interview comments revealed that students perceived

the sheer number in a short time frame as the major issue. Student 307 for example, complained that she had "*eight assignments due next month.*" Other students also commented on the number of assessments they had to cope with in a short time frame.

> "*I think we see about 15 or 18 individual assessments, which given 14-15 weeks in the semester is a lot*." **(S318)**

> "*Spread over two weeks I've got three presentations, a report, a test and a research proposal (which is worth 40%) so I've got three weeks to do all of those*." **(S11)**

One student stated angrily that, "*It just strikes me as bloody obvious that there's no centralised coordination of assessments*." **(S318)** Several respondents felt more could be done by lecturers to alleviate this problem and coordinate the number and timing of assessments. For example, Student 149 stated:

> "*I would like to see some form of central co-ordination from the heads of our faculty, to be able to sit down with lecturers and try and plan the workload*."

This was a particular problem for students studying concurrent degrees with papers from two different faculties, such as Student 179.

> "*Because I'm doing two different degrees they don't tie together very well so I'll be in study week for exams in one course and then I'll still be going to lectures and doing assessment for another course*."

Most of those interviewed stated that if assessments were more spread out they felt they would be able to cope better, achieve more, and learn more in-depth, as illustrated in the following quotes.

> *"You could learn more in depth if you had time."* **(S307)**

> *"It is disappointing in the fact that I sort of compromised. Had assessments been more spread I probably would have done very well in the test, which is a bit sad."* **(S310)**

"I'd probably put in a lot more, I could focus more on the subject than trying to do three at once and focusing everywhere. It'd be a lot more interesting I think and a lot easier to understand." **(S10)**

"*I'd go over it more thoroughly and think about it more*." **(S308)**

In contrast, others were not sure that this would ease the pressure.

"*Maybe if they were more spread out it might like take a bigger toll on you because as soon as you get one out of the way you've got to start doing another one. It's just like it never kind of eases up. Whereas when all these ones are done I'll be shattered as, but I'll just be able to kind of breathe easy for a while*." **(S11)**

Curricula issues

Another reason attributable to the institution that influences students' perceptions of their workload is the curriculum, specifically the amount of content in a course and the pace at which it is delivered. *Difficulty knowing what to focus on when studying* was ticked by 59% of respondents (97 out of 165) as a reason for their perception of a heavy workload. Forty five percent (74 out of 165) ranked this in their top five reasons, placing it as the fourth most important reason for their perception of pressure and negative stress. Where a course had numerous learning outcomes respondents complained of the difficulty they had deciding on where to focus their study. Students also remarked on how they appreciated lecturers who clearly signposted what course material to focus on. The following two quotes illustrate this.

*"There are some subjects where it is easier to know what to focus on and some lecturers are quite happy to unofficially make it known what topics are going to be covered. And I would say that those lecturers are not taking anything away from the course or the qualification, all they're doing is guiding you where to study and I think it's very worthwhile but you still have to go and learn it."***(S149)**

"*Some lecturers will highlight the important areas of what you need to know.*" **(S309)**

Many of those interviewed also commented that they used examinations as a guide for what to focus on, as reflected in the following quotes.

"*Past exams tell you that this is an important concept*." **(S307)**

"*I go through past exams and what they tend to focus on*." **(S113)**

The reason *too many topics to cover in a short time frame* was ticked by 80 out of 165 (48%) respondents to the questionnaire. Thirty six percent (59 out of 165) placed this reason in their top five reasons, ranking it sixth overall. As Student 55 stated:

"*The courses seem to have zillions of learning outcomes*."

Interviewees spoke of how this affected their learning.

"There's just so much to be covered. So yeah, your learning is not as good as it could have been."

The number of learning outcomes to be covered in a short time had implications for the pace of delivery, as signalled by a couple of interviewees.

"*I find it difficult to know where to focus. When you're in class you're being told all the information, you don't have time to take it all in, because you're just being given new stuff all the time*." **(S8)**

"*You didn't have a chance to finish what you were doing on one chapter before you got into the next chapter. The effect that this has on my learning is that I get very confused and I don't know what I'm doing because class is teaching me something and I'm way back here somewhere*." **(S296)**

In the interviews students mentioned feeling overwhelmed, problems with time management, taking short cuts, and being unable to explore topics in depth, illustrated by the following two quotes.

"Sometimes the number of topics can be overwhelming and a lot of information doesn't have time to actually get in and you're unable to absorb all the information. Sometimes you can't even recall information from a

previous lecture, there's just too much to cover in such a short period of time." **(S309)**

"*I ended up just taking shortcuts and just not putting as much effort in like when I'm running out of time."* **(S316)**

This appears to be a problem in all the faculties as seen in Figure 12. For the Faculty of Science and Technology for example, 7 out of the 11 (64%) respondents who found their workload unmanageable at times cited too many topics to cover in a short time frame as a reason. In the interviews students talked about the difficulties this causes such as the problems in higher level courses when information from earlier courses needs to be recalled. As Student 179 commented:

"*There's just a huge amount of information all the time and when you get to year two and year three you have to try and remember all that stuff*."

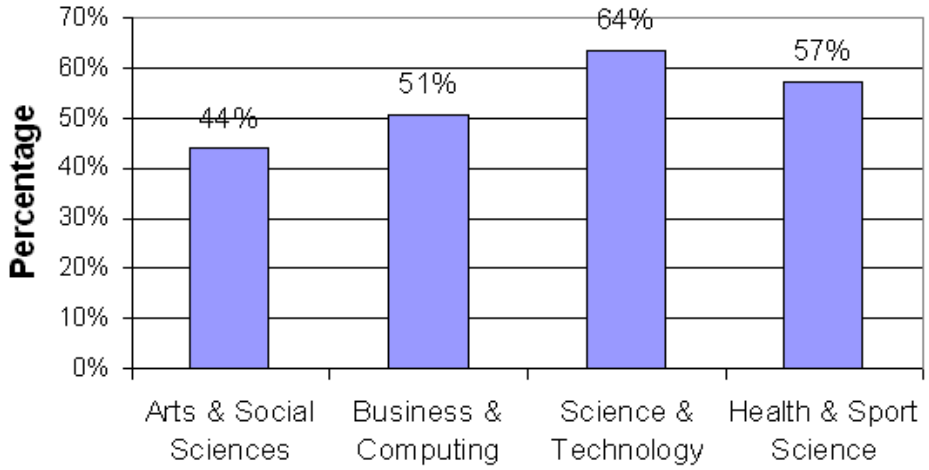

Figure 12. *Percentage in Each Faculty That Indicated Too Many Topics to Cover in a Short Time Frame as a Problem*

Generic study skills

A number of the reasons listed in the questionnaire were related to students' generic study skills. It is acknowledged that the term *generic* refers to skills such as research and essay writing but the literature acknowledges that these are to some extent context and subject specific. For one of these reasons, lecturers

making incorrect assumptions that students had the required skills to complete an assessment, 41% (67 out of 165) indicated this was a problem. Respondents ranked this eighth overall, with 27% (44 out of 165) placing it in their top five, although no one placed this at number one. Interviewees commented on this.

> "*We had to prepare something that was the basis for the assignment and I just had no idea and there were a few other people in the class who had no idea. The lecturer came back in the end and said, "I didn't know you do hadn't done this stuff."* **(S103)**

> "*There was one paper I took and they were banking on skills that we had done back in our first year. There was no refresher, you were expected to know. They would gasp that you didn't remember or didn't know and it was up to you to go and sort it out for yourself*." **(S18)**

Pressure was experienced by some students when they did not have the required generic study skills to complete an assessment. This reason was ticked by 27% (44 out of 165) of respondents and ranked eleventh overall. Some students commented on the problems caused when an assessment requires skills such as how to perform research, write a report, or when they had trouble with written expression.

> "*If you're given a layout then you can follow it. But yeah, otherwise you're kind of go on the Internet and search for it. There's so many different ways of doing the same thing and do you kind of find your own way*." **(S311)**

It adds substantially to the workload when students have to learn the necessary generic study skills without help from the lecturers on top of learning new knowledge and ideas related to the assessment.

> "*I wish that we'd learned about referencing and the formatting, because I've probably wasted literally hours with designing essays and things and getting everything in the right place."* **(S55)**

Student 166 who was in the final year of her degree had struggled with this problem throughout her time studying and described the extra pressure not having the necessary skills placed upon her.

"*It has basically slipped right through until level 7 and can put a lot of pressure on you. I get very frustrated and quite negative towards the whole experience because you come here as a learning thing*."

She went on to say that this added even more to the workload as she had to struggle with these new skills as well as the new knowledge and ideas relating to an assessment.

"*I'd like to see some real help with people who have actually got difficulties in areas such as writing. I think if you've got a weakness or deficiency in an area, it's a shame to let it go if the opportunity's there. It would be really beneficial, would help students get there quicker which would save a lot of research and time, which is extra outside of the subjects. And yeah, it would be a lot less pressure so you can actually really put some time into what you're wanting to learn."* **(S166)**

Students also complained in the interviews about the stress caused by inconsistent assessment requirements amongst lecturers, as illustrated by the following statement.

"There seems to be a lack of clarity amongst lecturers of what a report is and what an essay is and what a literature review is, which creates a lot of confusion and stress." **(S318)**

Another student spoke about how he had received some help with generic skills but he felt that it was not enough.

"*I find with researching, you know you have the librarians come in and help you or explain to you how to use the research things, but it's still a very difficult concept there are some skills that I would like to be taught, things like report writing*." **(S109)**

Even where tuition was provided for generic skills it appears that the timing was not always ideal, as shown in the following two quotes.

"*This year we had a lecture in the library which just sort of showed us how to use the databases and how to find stuff in the library. That was quite good. I kind of wish I'd had it in the first year instead of the third year though*."**(S313)**

"*Last year, we were given a big plan and lecture on how to write essays. But we should have got them when we started here, not halfway through our degree*." **(S312)**

Those students who had done an introductory course prior to starting their degree claimed it was useful for developing the necessary generic study skills. One student for example had done a Certificate in Social Sciences (CASS) and stated:

"*I learnt study skills in CASS and how to write reports and referencing, which was very useful*.**" (S307)**

The interviews revealed the range of generic skills students possessed, as well as prior knowledge and experience, depending on their background. As a couple of recent school leavers stated:

"*In a couple of classes there are topics where some people assume that a lot of people have worked in the industry so they know things from industry. But coming straight from school a lot of us don't know that kind of thing*." **(S8)**

"*I've had an experience where the lecturer expects you to know stuff and it's just like I've had no experience in this. How am I meant to know these things and you're meant to be teaching me.*" **(S11)**

Some who had not done an introductory course found it added to their workload when they struggled to learn generic study skills without lecturer help. A student in the older age bracket claimed that he was penalised compared to school leavers when lecturers assumed possession of these skills.

"*I've had to pay catch up to the young high school students. When other students are actually looking at learning how to do a particular accounting technique I've actually had to learn the maths behind it and then learn the accounting technique*." **(S149)**

Another student in the age bracket 23 and over stated that she appreciated that no knowledge was assumed but recognised the problem this caused for other more experienced students.

"I find my life experience is a great help but it doesn't help with computing papers because I knew nothing. Hardware was a good one for starting at the ground up. That started at really, really basic stuff but I know students that had a good understanding got frustrated in that paper, but for me it was great." **(S22)**

Support available

The questionnaire data indicated that *being unable to access help when needed* was ticked by 22% (36 out of 165) of respondents and was rated as the twelfth reason overall for stress and pressure. Interviewees were generally satisfied with the support they received but 18 out of the 30 students interviewed related a story about one or two lecturers they found quite unhelpful, creating extra pressure.

"*Some lecturers aren't that helpful and they make the learning and the paper a lot more difficult than it needs to be."* **(S309)**

There were also comments about the attitude of some lecturers, which were not considered supportive, illustrated in the following quotes.

"*You know, there are some tutors here that seem to think they are up on a pedestal above everyone else, so you think why bother? It's for their own self-gratification, you know*." **(S109)**

"*There were one or two that were extremely unhelpful and it was more like, 'It's my secret. You've got to find it out'. And when you are busy and you are stressed that was not really useful*." **(S18)**

Several interviewees mentioned that lecturers had made unhelpful statements similar to:

"*You're at that level, you should find out for yourself*." **(S311)**

In addition, it was not considered supportive when lecturers compared students' workload with the 'real world'.

"*I always cringe when I hear - when you're in the real world*." **(S318)**

Others did not feel there was a level playing field when it came to support.

"*I noticed favouritism with tutors. If they like you, you get extra time. If they don't, you're unlucky*." **(S260)**

Some students admitted that they were not always willing to seek help when they needed it, adding to perceived workload pressures. Student 315 stated that she did not ask for help because, "*When I first started, I felt a bit nervous that others seemed to know what to do and I didn't get it."* Student 307 also felt this. "*I don't like asking for help. I think am I the only one who doesn't get it?"*

Another reason listed, *not knowing how to access help*, did not seem to be an issue as this was ranked in the top five by only two percent (4 out of 165) of respondents. All the interviewees were aware that they could access support at the Learning Centre although some complained that this was not always practical.

"*I go to the Learning Centre once in a while but you've got to book so far in advance and it's really difficult when you need the help now*." **(S109)**

There were a number of comments that revealed how the lack of support from some lecturers added to workload pressures and influenced approach to learning. This was evident in the comment from Student 18 who felt she got no support from one particular lecturer so was forced to take a surface approach just to pass.

"*I learnt in one particular paper not to ask for help because I knew I just wasn't going to receive it. It may have been cheating a wee bit, but I would look on the internet and ask questions there, and that's how I probably got through one of my papers, by trying to suss out how to make things work.*"

Students also spoke of their frustration` when lecturers did not think through assessments, making the workload more difficult than it needed to be.

"*I think quite often the staff themselves don't know the scope of what they've actually written. It's not until you actually start working on it that you see the impact or the requirements that are going to be needed for that assessment. So, quite often the staff will think, 'oh, yeah, that's a bit big' and then they'll start spilling the beans and that's quite frustrating if you've started early*." **(S22)**

Some interviewees talked about lecturers who lacked empathy for the struggle students had with the heavy workload, as illustrated by the following quotes.

"*I don't think they really get the pressure we are under*." **(S314)**

"*Every lecturer comes across like that's the only paper. They'll say, 'Are you doing this?' or 'Have you done that?' and it sort of seems like, yeah as if I haven't got anything else to do!"* **(S55)**

"*The lecturers would say 'I've got to do this' and 'I've got to do that' so you'd think they'd understand. I actually thought it was quite rude because they don't think you've actually got a life other than study. I learnt in one particular paper not to ask for help because I knew I just wasn't going to receive it. No one ever asked if there were any problems going on in your personal life."* **(S18)**

Some students explained how they felt powerless to complain about the lack of support, as shown in the quote from Student 318.

"*You've got to tread carefully on that, which is my experience when complaining about the problems this causes. It's a small campus with not too many lecturers, so you're quite likely to have the same lecturer for two or three papers. I'm absolutely certain that complaining can jeopardise your results. It can make a big difference I say, whether you get on well with your lecturer is worth 10 to 20% in your assessments, as a general rule of thumb*."

When asked if she had tried talking to the lecturers about difficulties she was having, a student replied:

"Yeah, I have tried that and like sometimes you can work through it and sometimes you can't. I guess sometimes it's just a personality conflict and you are in their space but it does make it difficult. There's one particular situation where I pressed a certain issue and the paper's got a lecturer that has a reputation that precedes them before you even get in there so, I mean

you feel pretty concerned about how you're going to get on in this particular paper before you even get there." **(S166)**

The interview data indicated that students often gained support from working with other students. However, it appears that this is not always encouraged by lecturers.

"We had a big song and dance recently about students helping each other, you know? Some people were accused of cheating because they're talking to each other about an assignment. And it's just like, yeah, this is just ridiculous here. It made me very, very angry because I think helping other students is a very good way to go but after that it makes you very wary about it, you know." (**S109)**

Moreover, students did not appreciate having to rely on other students for the help they believe lecturers should provide.

"*I was really stuck doing a literature review, didn't know how to do it, didn't understand it particularly. I sat down with another student and he showed me a way to do it I found really good. I felt disappointed that it wasn't given to us by the lecturer."* (**S166)**

Enrolment advice

Students being enrolled in the wrong course due to poor advice or lack of advice did not appear to be a problem with only six percent (10 out of 165) citing this as a reason in the questionnaire. One student however, felt quite strongly about this and was annoyed about the advice he received.

"*When I started the course I asked whether or not I had enough skills required for the course because I was quite deficient in basic mathematical skills. I was basically told that if you've done one diploma level paper, then I had all the skills required to complete a degree. This advice let me down. For the entire time of my studying here I've had to pay catch up to all the other students, which I did explain and cover when I was seeking advice as to whether or not I was going to be able to complete this degree. I feel very, very let down*." **(S149)**

Reasons related to individuals

There were a number of influences that could be attributed to the individual that impacted significantly on student stress including time management, part-time jobs, family commitments, socializing, and motivation, which are discussed in this section. In addition, health problems, cited by 19% (31 out of 165) of respondents to the questionnaire, were not mentioned by interviewees. Students with health problems may have been absent so they were less likely to volunteer to be interviewed.

Time management

Sixty six percent (109 out of 165) of respondents who felt under pressure at times indicated time management was a problem. This was ranked as the second major reason for perception of a heavy workload in the questionnaire, with 59% (98 out of 165) rating this reason in their top five, and both genders and different age groups rating this equally. Interviewees were asked to comment on why they thought time management was a problem for them, and various reasons were posited for respondents' perceptions. Student 21 for example, stated, *"I didn't have a clue about time management. I did my assignments over night."* Student 307 admitted to seriously underestimating the amount of time her programme of study required.

> "*I didn't really realise how much time this was going to take up. There's 140 hours on this particular paper but you've got to try to find those 140 hours first of all. It didn't really sink in at the beginning. I thought I'm used to working 40 hours a week, you know, so this will be easy, but of course you spend a lot of time at home doing assignments."*

Another student recognised that it was his fault that he had poor time management skills and admitted that he was lazy.

> *"Basically I played a lot of computer games but then I got three C minuses so I've cut out computer games. I could go to the library when I don't have classes, but, yeah, often I've been pretty lazy and just hung around the campus and done nothing*." **(S113)**

Some interviewees assigned external attributions to the problem of time management. Student 103 for example, complained that the amount of time available to complete assessments was often not as long as lecturers would claim leading to time pressures.

> "*They say, 'well you've got five weeks to do this assignment.' But really it's three weeks of learning, before you can actually go into the challenge of completing the assignment*."

Those that assigned internal attributions recognised that time management was under their control and that careful planning was required.

> *"I have found it tough to be a student especially this time of year with so much on. You just have to plan out. It's the only way you can do it."* **(S312)**

Students in the older age bracket and those committed to more than a passing grade took their studies seriously and were aiming to learn as much as possible so they used all the time they had available productively but placed extra pressure on themselves. Student 166's comments illustrate this.

> *"We take our studies pretty seriously, get up from Monday to Friday at six o'clock in the morning, get an hour's studying before we have our first class or breakfast and then get back into some study or head off to class."*

She went on to say:

> "*My focus is really just about studying and wanting to learn so I put a lot of pressure on myself*."

Several interviewees recognised that having a written time management plan could be useful but did not feel this suited them.

> *"Yeah I do realise having diaries and writing things down does work but I'm just not one of those people who writes things out, but you know, it works for me."* **(S311)**

Interviewees were asked if procrastination was an issue in their time management problems. Students who had no commitments other than study, usually those in the younger age group, admitted to procrastinating until the pressure of a looming deadline spurred them into action. Examples include:

"*I always say at the beginning of the year 'I'm not going to leave it until the last minute' but things always come up and I tend to put it off. I seem to work better at the last minute. Like once I'm under pressure and I know that have to get it done I'll sit there and churn it out*." **(S60)**

"*When it comes to assignments I put it off until the last minute normally and then try and cram it all in at once. I don't know why I do, I just think I'm lazy*." **(S59)**

"*I need pressure to be able to do anything*." **(S109)**

Students in the older age bracket and those committed to more than a passing grade, stated in the interviews that they tended to procrastinate when they felt were that assignments were not well defined and as a result they did not know how to get started.

"I do procrastinate because I actually try to find some focus in class and I need somewhere to start and I find it really hard to find a starting point so I just waffle around. *The lecturers often don't know the assignment inside out themselves. It's not until they're questioned by students, 'What do you mean by this?' that they realize that it isn't quite going to work and they modify it. That makes it really confusing."* **(S22)**

"Procrastination for me was if I didn't understand what I needed to do or how to go and start it." **(S18)**

Part-time jobs

In the questionnaire, 70% of respondents indicated their part-time job added to their pressure, with 56% placing this in their top five, ranking it at number three. Respondents also had to indicate on the questionnaire the average number of hours they worked in a week. Table 9 shows that 85% of the respondents who perceived their workload to be unmanageable at times, worked part-time for more than ten hours during an average week, and 50% worked for more than 15 hours.

Table 9 *Average Number of Hours Worked per Week in a Part-time Job*

Average Hours per week	Number	Percentage	Cumulative
1-3	1	1%	100%
4-6	4	3%	99%
7-9	13	11%	96%
10-12	20	17%	85%
13-15	21	18%	68%
>15	57	50%	50%
Total	116		

Eighteen out of the 30 students interviewed had part-time jobs. The interviews revealed the extra strain having to work part-time placed on respondents such as Student 310.

> "*If I didn't work I'd have heaps of time for study. Sometimes things are really quite pressurised, especially now I'm doing day work there is a lot less time*."

The amount of pressure a student felt from their part-time job varied depending on for example, when they worked. The following comments give examples of this.

> "*I work all day Saturday and Sunday, and that's one reason why I think I have trouble doing my assignments*." **(S113)**

> "*I was working a Friday and a Saturday night from six at night until six in the morning. This threw my body clock out quite considerably. After doing those two nights it would take me three days to get back into a normal sleeping pattern. Then you'd sort be recovered for two days then you're back into the night shift again*." **(S149)**

The pressure experienced also appeared to be related to how sympathetic the employer was to their study commitments, and how much they needed the money, as illustrated by the following quotes.

"*I've got a good boss who is pretty good with me because he knows the papers, he's studying as well and he sort of lets me go if I have a class or I need to do assignments and stuff*." **(S313)**

"It's a battle for taking more time to study as well as needing the money now to survive so quite often I have to work at least work eight hours a week to make ends meet and pay rent all that kind of stuff but I've got a good relationship with the boss as she studies as well part-time so she kind of gets it and she knows if you've got a major assignment due I can ask for a weekend off quite last minute and she'll do her best to accommodate it." **(S60)**

"I have taken a lot of leave from my job due to assignments. I've told my boss if I need to study, I'll help you if I can but my assessments come first and they're fine with that." **(S312)**

Student 318 talked about his need to work and the problems this caused.

"*Being a student, there's a lot of other pressures there - financial, time etc. It would be interesting to know how many have had relationship casualties. You just do not have time. You do not have time or money. If you've got money, you've got no time."*

Some students claimed their part-time job was an advantage and had a positive effect on their perception of workload. The following quotes give examples of this.

"*I teach Pilates and aerobics, so it sort of maintains my fitness and it's helped with memory and posture so I think that's probably an advantage for me, staying healthy."* **(S55)**

"*I work every Saturday for nine hours, which eases a bit of financial burden. It's just the one day where I can forget about assignments. I call it time-out from study."* **(S166)**

"I'm lucky enough to have a part-time job on Saturdays only where I can fit in some study in as I only have work to do when there are customers." **(S308)**

Family commitments

The pressure felt from family commitments was rated the fifth highest reason on the questionnaire for a perceived heavy or unmanageable workload at times. Fifty-nine percent (97 out of 165) cited this as a reason and 45% ranked it in their top five reasons, with eleven of the students interviewed raising this issue.

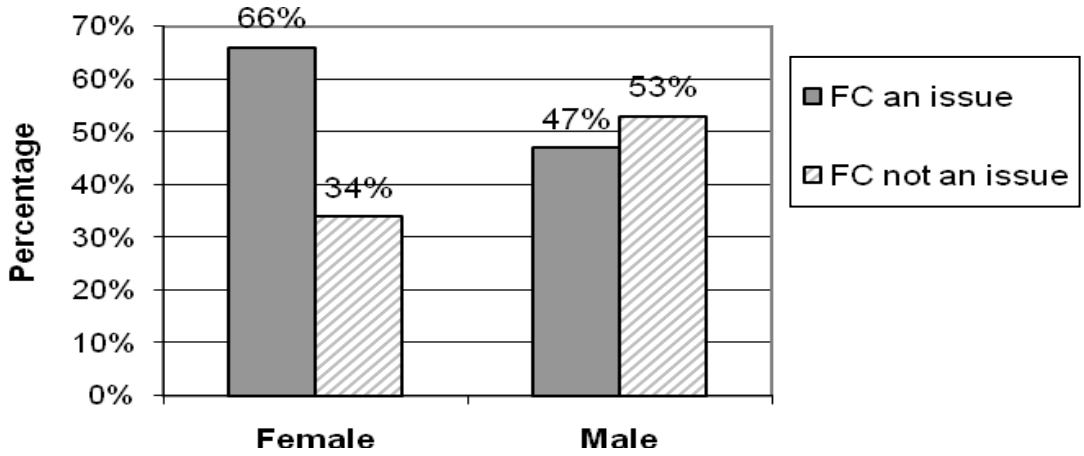

Figure 13**.** *Family Commitments Broken Down by Gender*

Figure 13 compares all students who perceived their workload as heavy or unmanageable at times, focusing on those who found family commitments contributed to their perceptions, and those who did not. It is obvious that this is a problem for females and not males, with 66% (68 out of 103) females reporting family commitments as a problem compared to 47% (29 out of 62) of males. A chi-square test carried out on the raw data in Table 10 (Chi-squared value 5.92, $p<.02$, $df1$) provides evidence that family commitments are a problem for females.

Table 10 ***Manageability of Workload by Age***

	Family Commitments is an issue	Family commitments not an issue	Total who perceived workload as heavy or unmanageable
Females	68 (66%)	35(34%)	103 (100%)
Males	29(47%)	33(53%)	62(100%)

Mature female students often painted a picture in the interviews of a chaotic life coping with family and study, as shown in the following quotes.

"*The kids start moaning and wondering where the food is and why I have forgotten to fill out this form. Whatever is the most important gets the most attention and the rest gets left*." **(S22)**

"There's a lot going on and quite often people say, 'How do you do it?' Probably the biggest interruption would be when the kids're crook." **(S55)**

It can also be seen in Figure 13 that there was a much larger percentage of males in the age group 23 and over who were responsible for a family compared to younger males; 24% (23 out of 97) compared to 6% (6 out of 97). One male in the older age bracket stated:

"*When I started, study was a priority, but during the course of these studies I've had a young family of two children so now it's become less of a priority and I'm having to settle for less commitment to the study and focus more on family matters*." **(S309)**

It was interesting to contrast this with students in the younger age bracket who were responsible only for themselves and had all the time they need to study but could not seem to manage their time.

"If I've got two weeks then I'll say, 'I've still got a week to do it'. But once it gets down to crunch time I have to sit down and do it and quite often I'm up till six or seven in the morning doing my assignments because I've left it so late." **(S113)**

Interviewees with family responsibilities spoke of the difficulties sorting out their priorities and felt there was never enough time available to fulfill all the conflicting demands on them, as illustrated in the following quotes.

> "*My study is important, although I feel less inclined to shut myself off to study when the family are at home. I try and organise my study for when there is no one at home. So weekends are quite a bit of a struggle sometimes*." **(S317)**

> *"It is full on and I guess I just keep going and fit everything in*. *I fill every minute then your children get sick and they get tired and it's like I sort of count the hours in a day and sometimes I'll set my alarm for three in the morning*." **(S314)**

> *"Problems occur with the kids having things on at school, and you've got assignments due. You've either got to sort of do the Mum thing or do the student thing. That was difficult, especially when Dad didn't pull finger and do anything to help and it was hard too when the kids would want you to help with their homework*." **(S18)**

Those with families also spoke about how they found it difficult to deal with interruptions when they were pressed for time.

> "*I can't put up with them, well they interrupt and I feel bad but when I'm stressed I suppose they do wear it in that respect. I don't deal with interruptions from family well at all*." **(S22)**

> "*You'd tell them not to interrupt you but it didn't work very well. And on top of that you're always tearing around trying to cook a meal or rush around and do the shopping or do the housework while you're trying to study*." **(S307)**

Comments in the interviews appear to indicate that the ability to cope with looking after a family and studying appears to be related to the amount of support from partners or other family members.

"*I have got good family support, so that makes a difference."* **(S308)**

For those with little support the workload appeared to put strain on relationships, particularly for female students with partners and children.

"*I did separate during my studies and the kids don't understand the real pressures when you're really, really busy*." **(S22)**

"I have to admit that since I've been studying it's caused a few issues with things. I think there's a little bit of resentment." **(S307)**

Socialising

Socialising can refer to use of time on-campus or going out in the evenings and weekends instead of studying. This reason for a perceived heavy workload was ticked by 30% of respondents to the questionnaire, and was ranked in the top five by 15% of respondents. Figure 14 shows that of those who indicated socialising as a problem adding to workload pressures, the majority were in the under 23 years age bracket. Some of the interview comments from younger students include:

"*If I had a couple more days to do the assignment I'd go out*." **(S59)**

"*It's kind of hard to say no to people sometimes. A few drinks can end up going all night and not going home, especially when a lot of my friends aren't studying. I find that quite hard*." **(S60)**

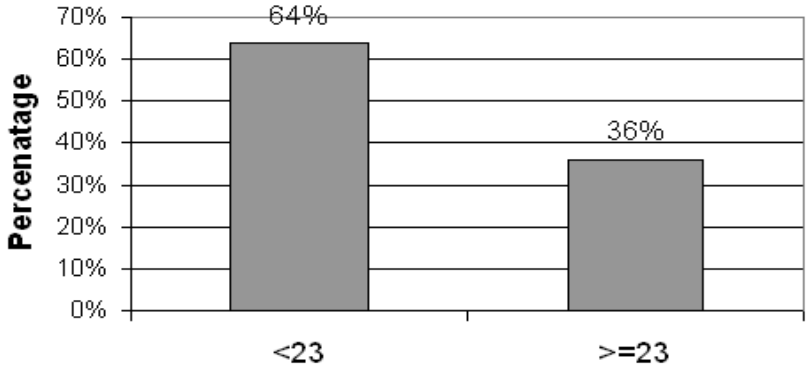

Figure 14. *Socialising Compared to Age*

However, those students with no responsibilities, who were self-disciplined and well-organised, and who stayed on campus and worked between lectures, appeared to have no problem with time management and felt they could socialize without affecting their studies.

> *"Study is my number one priority and I don't socialise. I do my work from ten till three and then when the weekend comes I know that I've worked enough. I just think if you manage your time then it's okay If you set yourself a timetable then I've got all the other time to do what I want*. *You don't have to say, 'Well I can't go to the movies tonight because I've got to work'"* **(S316)**

There were also younger students who felt their study was more important than socialising.

> "*I think I'd love to do so but then I'd feel bad so I wouldn't have a good time if I went out. So we tend to spend a lot of time at the library and don't really have a social life*." **(S310)**

The students in the 23 years and over group often claimed they did not have the time or money to socialise and that studying was more important anyway.

> "*I didn't have a social life - couldn't afford one to be honest and I was just too busy."* **(S18*)***

> "*Given the choice I'd do the assignment guaranteed because I can socialise next year*." **(S22)**

Further time management related issues

Students who indicated the greatest time pressures emerged as those with both family commitments and part-time jobs. Six of the students interviewed had both a part-time job and family commitments, and it was clear that this could create extra pressure, although this depended on the nature of the job and the amount of family support.

"I don't have enough time. I have to meet family commitments and put time in with my child and my partner. I also have to work part-time and I have to study."**(S149)**

One of the students in this situation could study at work and had good family support so she felt less pressured but still recognized that good time management was the key to managing workload in these circumstances.

"I have two small children and a part-time job so I have to have good time management. **(S308)**

It further emerged in the interviews that responsibilities outside study could affect students' level of commitment to their programme of study. One student for example, who worked in a bakery stated:

"*I was starting at five o'clock in the morning. I was basically coming to classes with a giant cup of coffee, and living on coffee and food. Yeah, basically, I just did what I had to to pass."***(S315)**

Other interview comments showed the effects family could have on academic achievement:

"*I take the family commitments quite seriously and I'm willing to sacrifice some level of academic achievement to keep the family commitments going*."**(S309)**

"I have quite large time commitments with part-time work and family so a pass is enough for me." **(S149)**

Students talked about the need for balance between study and life outside the institution or they experience excessive pressure.

"*I was taking care of family, working part-time as well as studying, and I was just like 'no, it's just crazy'. You have to prioritise what's important*. *I'm feeling really tired now and it's now more important for me to make a conscious effort to fit in relaxation or something that's outside of study. It's like saying Yes. It's OK to do it. It's something that you need to do for yourself apart from study.*" **(S317)**

Time management was also related to socialising as evident in the following comment.

> *"If I had an assignment due and someone said they wanted to go out, if the assignment was due the next day, I probably wouldn't go out, I'd stay and do it, but if I had a couple more days to do the assignment I'd go out*." **(S59)**

The study environment also impacted on time management. The library was mentioned several times such as when Student 103 spoke about his difficulty finding somewhere quiet to study.

> "*It's hard finding an actual place. The library is just getting harder and harder to study in as well with people talking, which just adds to the stress*."

Student 149 explained how he needed a quiet study environment away from family interruptions but complained that the library hours were inadequate for his needs.

> "*I have to study in a quiet environment, preferably the library here at XXX and I find that quite a problem too for managing my time because of the hours of the library. It's just not open late enough at night or on the weekends and I think that students are being let down*."

Motivation

Lacking motivation was ranked as the seventh reason for perception of a heavy workload with 48% of respondents (79 out of 165) citing this and 35% (57 out of 165) placing it in their top five reasons. Thirty-nine percent (38 out of 98) of respondents in the older age bracket who perceived the workload to be heavy cited lacking motivation as a reason, compared to 61% (41 out of 67) in the under 23 years age bracket. For example, one student in the younger age bracket stated that

> "*I want to pass even if that means staying up at night, especially if I haven't been motivated to do it earlier on*." **(S110)**

Respondents such as the following admitted to lacking motivation in courses they did not find useful or could not see the need for.

> "*One of the first year papers, I thought yeah, I got nothing out of that. It seemed a bit of a waste but apparently it was supposed to give us an insight*

into what businesses were like but I sort of failed to make the connection." **(S18)**

"I can't get motivated if it's one of those papers where it's like 'what's the point?" **(S109)**

A number of the interviewees referred to lacking motivation in compulsory courses.

"*There was one compulsory course that seemed a waste of time so it was difficult to get down to study*." **(S307)**

"*Some papers are really hard. Not hard as in challenging hard, but hard as in, I don't like the compulsory ones that you sort of think why am I doing this, it doesn't seem relevant*." **(S316)**

It appeared that interest played a role in how motivated a student was to study a particular course. Students appeared to lack motivation in areas of study that they were not interested in.

"*The theory side I don't enjoy and whatever they give me, even if it's not that much, it seems too much for me."* **(S311)**

On the other hand, interest and enjoyment could motivate students to engage and produce high quality work, as illustrated by the following quotes.

"If it's a subject that I'm interested in or that is useful to me that can make a big difference in the quality of work." **(S109)**

"*I think enjoying your course actually motivates you*." **(S312)**

One student claimed to do more research in subjects she found interesting.

"I think the papers that I didn't enjoy, then I didn't do too much in depth research into them. Stuff that I liked and was interested in I'd work on steadily in the time available getting research on those and looking and discovering things and all that sort of thing. Yeah." **(S315)**

It also emerged from the interview data that the amount of background reading students did was influenced by motivation. One student spoke about how the background reading she did reflected her interest in a subject.

"For papers that interest me I do background reading. I can't help it because when I am reading and researching I'll think 'oh' and it leads me to further reading. But there are other papers I don't do as much. Basically I just do the bare minimum, don't do extra reading." **(S314)**

A student studying a concurrent degree was more motivated in one aspect than the other.

"*Whether I do background reading sort of comes back to the relevance as well. Like I do read about the Viticulture stuff but not really the Wine Making stuff. It'd be good to know but it doesn't really interest me as much as the Viticulture side."* **(S313)**

There was also some evidence to suggest that motivation was related to students' learning goals. Student 59's comment pointed to a purely performance goal and she was motivated to pass, "*I probably just want to pass", w*hereas others who adopted a performance goal were motivated to achieve a specific level.

"*For me it is all about getting above a certain level, like 75%. I kind of work on assignments when I know I've got this amount of time left and can't afford to kind of not do them. I don't do any extra. As long as I've got over the set mark, and that's the goal I've got, then it's okay."* **(S311)**

Student 21 was motivated to learn and adopted a purely learning goal.

"*My motivation was just to learn as much as possible. I wouldn't worry about the marks. I studied stuff that's new or I think has got potential. I just want to learn*."

Career prospects motivated many of those interviewed.

"*I was sort of involved in the dead-end jobs and I just thought right if I don't do it now I'm going to spend the rest of my life regretting it*." **(S307)**

Several of the respondents commented on being motivated to gain a qualification or get the job they wanted. Some lacked the motivation to learn in-depth and just wanted to achieve their goal with minimum effort.

"*The reason for doing my course is probably just to get a qualification. If I was more interested in this course I would spend more time on it and try to learn more about it."* **(S59)**

For others their career goal motivated them to learn as much as possible or pay more attention in certain topics or courses, as shown in the following comments.

> "The *more relevant it is to my job, the more motivated I am to learn it in-depth*." **(S313)**

> "*I sort of pay more attention when we're learning things and you feel like you can use it in the workforce because it's always got that learning thing. If it's like 'do we really actually need this?' you don't pay as much attention and take it in*." **(S8)**

Student 11 did minimal work in core subjects she lacked interest in but was more motivated in the courses relevant to her chosen career.

> "*For most of the core subjects I'm happy just to pass those ones but I'd like to be able to gain more in the Accounting ones which are for specialising and stuff*."

Several interviewees claimed to be motivated by a sense of achievement and proving to themselves and others that they were capable.

> "*I would say my biggest motivation is being able to say that I've done it*." **(S308)**

> "*It's about actually achieving a goal that I never thought I could*." **(S317)**

One student who was close to completing her degree stated how difficult it was to stay motivated over the three years.

> "*Sometimes it does get really tough. I feel I'm losing motivation, and all I want to do is just go out to work. But if I don't finish it I'll have absolutely nothing to show for all the study."* **(S310)**

Another student attributed her motivation to fear of failure.

> "*Things that keep me going when things get tough are the fear of failure. That would be the biggest thing*." **(S22)**

Student 311 also had a fear of failure and family expectations that helped to motivate her.

"*What motivates me is the actual fear of failing and also telling my family that I failed. That's another thing, they do not expect me to fail*."

Motivation can also be related to time management particularly the issue of procrastination. One student who was highly motivated to learn spoke about how he learned to manage his time better.

"*It boils down to trying to get started as soon as possible. The further I went along the easier I found it and in the end I got quite good at it."* **(S21)**

Some interviewees admitted to procrastinating when it came to subjects they had little interest in as they found it hard to get motivated to make a start, as shown in the following comment.

"*It just sort of depends how quickly I do it. If it's a subject I'm not that interested in I wait till I feel pressured."* (**S313)**

Summary

Results from this study show that the reasons that influence students' perception that their workload is heavy or unmanageable at times at this institution confirm those found in other studies. Some of these can be related to the individual student such as time spent in part-time work, family commitments, or spending time socialising, and as such they are not under the control of the institution. The interviews highlighted a number of barriers to quality learning that could be related to institutional factors leading to perceptions of a heavy or unmanageable workload. These included the timing and number of assessments, curriculum issues like too much content covered in a short time frame, and the support available to students. Lacking motivation could be seen as an individual problem or related to the institution in that some courses are not seen as relevant by students. The next research question reports on the effects these problems cause for students and how they respond.

Research Question 3
What are the effects of a perceived heavy or unmanageable workload and how do students respond to these?

This section analyses the interview comments to consider the feelings associated with a heavy or unmanageable workload, the strategies students adopted to cope with this, and how some students see withdrawal as an option to cope with heavy workload.

Feelings associated with perceived heavy workload

Interviewees were asked what sort of feelings they experienced when faced with a heavy or unmanageable workload. Twenty-seven out the 30 students interviewed admitted to various negative feelings at times, even those who believed their workload was manageable. Frustration, panic, and being short tempered, were among the feelings described, as shown in the following quotes.

> *"It is frustrating, but I'm not too sure how to get around it. It's not as if I'm not doing anything. It's not as if I'm just wasting my time*." **(S310)**

> *"Apart from panic what can I do about it? You work longer, you work harder, your family doesn't see you and you get awfully shitty*." **(S18)**

Respondents also described feeling exhausted, unable to relax, or guilty if they took some time for themselves, illustrated in the following comments.

> "*I hate it when all I have to do is assignments I feel guilty doing something for myself*." **(S60)**

> "*You just get like really exhausted by the end with all the assessments*. *I was looking forward to a break but just having things hanging over your head can be quite scary and you can't relax, but you really need time to be able to de-stress yourself."* **(S11)**

Respondents, such as Student 314, with family commitments on top of study expressed guilt for neglecting their families.

"The kids don't really understand it. I'm like, 'be quiet!' and they're 'Mum!' every five minutes. I'm probably very grumpy if I'm studying and I know I should be playing with them outside." **(S314)**

Coping strategies

The students interviewed described a variety of strategies they used to cope with a heavy workload. For example, Student 179 stated that when a number of assessments are due at the same time he cuts out all other activities to handle the workload.

"*It turns into being a big focus of my whole life and everything else tends to drop off, like training drops off at the gym, involvement with other people and sports and stuff*."

Student 307 described how she planned her work to make it seem more manageable.

"*I have a wall planner that I find useful. What I tend to do, I'll do it by the month as if I sat down and planned everything out for the whole semester I'd freak out. I tend to write it down say at the beginning, or towards the end of the month then I'll look at the next month, and work out that I've got eight assignments due next month, put those on the planner*."

When assessments are due around the same time this appears to put enormous pressure on some students and it was common for them to cope by working through the night to complete assessments on time. Student 22, a sole parent with the responsibility for a young family, admitted, "*I just stay up all night for about three nights and kill myself handing it in."* Student 18, who also stayed up all night, said, "*I don't know how many times I was popping No-Doze when I had six things due in a month*." Another student stated:

"*When I have several assignments going at one time and they're all due in at the same time I feel quite a lot of pressure and the hours of working at night get longer and longer and even to the point of staying up all night."* **(S309)**

In the interviews students were asked what part weightings played in prioritising their work. Of the 25 interviewees who commented on weightings in the interviews, ten stated that weightings either cannot or do not play a part in prioritizing their workload. Student 311 said for example, "*I don't pay too much attention to weighting*", whereas Student 110 stated "*I do worry about the weightings but sometimes there is so much to do you can't worry about them*." Some students tend to put more of their effort into assessments with the highest weightings where possible.

> *"If it's a 40% weighting compared to a 20% one, the 40% one is going to get more work*." **(S179)**

Some students coped by prioritising their workload according to the weightings of the assessments, and where the pressure was on they often adopted a strategic approach, as Student 22 did for example.

> "*I'll proportion the time and just cut it off and I think if I'm struggling with a big assignment and I need to have another one done and I haven't quite finished it. I just target the points and look at what's left and if something is worth 20 points I'll spend a bit of time on that and just throw away what I can't do, depending how much it's worth*."

Others complained that the weightings did not seem to equate with the workload required which added to their pressure, as signalled in the following complaints from students.

> "*I hate assessments that are an awful lot of work but in actual fact the weighting is very, very little. There could be a lot of little assignments, not worth an awful lot, but a heck of a lot of work goes into it and of course that raises all the stress levels as well."* **(S18)**

> "*At the moment I'm working in a group situation on an assignment that's worth 10% and that's actually required a lot more energy than one that I've got waiting to be done that's worth 25% and that frustrates me."* **(S317)**

"Some assessments are worth less but they're quite a lot of work. It kind of makes you feel a bit ripped off." **(S11)**

When faced with a number of assessments all due around the same time, some students interviewed prioritized by starting with the easiest or most interesting assessment, whereas others worked on the one they found the most difficult first.

"*I do the one that I like the most*." **(S113)**

"*I tend to focus first on the areas that I have trouble with rather than the easier ones which probably get less of my efforts*." **(S11)**

Some interviewees described how they aimed to work on the one that is due first, although it became more difficult when the assessments were due so close together, as the following to comments illustrate.

"*I just look at the dates when they're due in and if they're due in on the same day then it's just pot luck which one I pick to work on*." **(S103)**

"If they're about three or four days apart the assignment that I would focus on first would be the earliest one. If they're all due on the same day I'd usually have a look through and find the easiest one, which I can do the quickest." **(S296)**

Other students coped with their workload by putting most effort into where they got the most reward in terms of grades. Student 311 described how he worked this out.

"*I was getting good marks in paper A but not so great in paper B. I ended up concentrating on paper A work. I was like, you know I'm averaging a C pass or something for paper B so that's OK so I'll concentrate my efforts on getting a good grade for paper A*."

Some interviewees attempted to break up their workload sensibly but found it difficult to juggle a number of assessments at the same time.

"I find it difficult because at the moment I've got three assignments and they seem to be waltzing around in my head. I've got one that's part started, one

that I've done reading for and another one that's part started. But it's all sort of a jumble that I find hard." **(S317)**

Student 316 stated, *"If we do get a whole lot together I'd rather cover all the components but not do it as well than actually leave parts out*."

There was also recognition by some interviewees that getting started as early as possible on an assessment was an important factor in coping with the workload.

"Every time I receive an assignment I immediately start on an introduction page and start thinking about the first question. Because it is started it's much easier to go back to, and often that's the critical point and you're prepared to keep working on it." **(S149)**

However, this was not always possible as evinced by Student 166 who talked about the difficulty she had getting started when she was unsure how to proceed.

"I like to really know exactly what they're looking for otherwise it's just a blank there and you don't know what you're doing, you don't know where you're going."

Interviewees found it more difficult to cope when there was inadequate guidance about the assessment expectations and criteria.

"*Some of the assignments are very ambiguous projects. That's the other challenge*." **(S109)**

Following a marking schedule appeared to help some students prioritise their study for an assessment, illustrated by the comment from Student 179.

"*I think probably having marking schedules that tell you exactly what gets marked and what is not are good. I know that one lecturer who really likes reports with a lot of references and all that kind of stuff. But then another lecturer didn't give you very many marks for references and wanted you to write more about your ideas. If you tried to write the same report for both of them you're going to get marked down."*

On the other hand, where no marking schedule was provided or the marking schedule was unclear this added to the workload, as reflected in Student 318's comment.

"*Sometimes it's just impossible to really work out what you're doing, as the marking schedules are pretty vague*."

Some students would work hard to get one assessment out of the way, so they could concentrate on the others, but this did not always work as they could find that they have not done what was required, or have not covered the work necessary to complete an assignment.

"*I've been caught where I've handed an assignment in two weeks before the due date, trying to beat the rush, and then finding out that I'd actually answered the question wrong and that was down to the fact that we hadn't covered it in class yet*." **(S149)**

Another possible coping strategy when several assessments where due around the same time was to seek an extension to the assignment deadlines, but regulations often precluded this, as evinced in the following comment.

"They're saying to us come a week before. Well, you don't know and until the day before, and it's like, you need an extra day to really turn something in that you'll be satisfied with." **(S314)**

A further common strategy to find a focus for study was to use past examinations, as previously mentioned, however, some recognized that this was not ideal.

"I use past exams to know what to focus on. But it's not a good thing because I want to read everything. I want to learn everything instead of just focusing on important points." **(S310)**

Some interviewees admitted to doing poorly in examinations so their strategy was to cope by trying to do well in the internal assessments.

"*If you're not so confident in one paper you try and do really well with the internal assessments before going into the exam*." **(S312)**

For some students it has helped them to cope when lecturers signposted what they should be working on each week but for others this caused more stress.

"*You're so focused on other things that you're like when they say you should be doing this part of your assignment I'm just like I've just too much else to worry about, I'll worry about it later*." **(S11)**

The strategy adopted by some interviewees to cope with the difficulty of working out what to focus on was to ask other students.

> *"I did feel at times that it was difficult to know what to focus on but then I would also ask around class anyway to see what they were doing. I found asking other students helpful."* **(S315)**

> *"I think it helps a lot to work with other students. I don't know if I could do it by myself*." **(S8)**

Other students spoke about how they appreciated the support of other students at times.

> "*Sometimes I'd go to another student and say, 'Look, I just have absolutely no idea' and sometimes what they say will just twig something in your brain and you'd think, 'Oh yep.'* **(S18)**

> "*Other students are definitely a useful resource. We help each other and share books. Because I think it's about, it's not being competitive in marks, but sort of what can we learn*." **(S314)**

> *"Other students can be useful, like I just ask them how they're finding the assignment, not really asking them, getting information off them, but asking like different angles that they've looked at because I can't think of other ideas, whereas other people look at it from different ways. Even if you just ask them a just a key word or something and you use that to boost your thinking a bit more."* **(S316)**

For some though, other students can sometimes add to the stress, as mentioned in the following comment.

> "*You walk out of the class and someone would say, 'oh, did she mean you had to do that?' or 'I thought we only had to do that little bit' all like total confusion and I thought 'I have to walk away because I thought I understood it'*." **(S317)**

Another possible strategy for coping is to use the services of the Learning Centre where students can either make an appointment for one-to-one tuition or use the drop-in centre for quick enquiries. Student 317 stated, *"The Learning Centre was good at the start when I was panicking about the workload and they gave me some useful advice*." However, the Learning Centre tutors are often swamped so it was not always possible to access this support, particularly if a student does not do forward planning and seeks help very close to a deadline.

> "W*hen I went to approach them they had a full schedule and for the time I needed it, it was not possible*." **(S110)**

Withdrawal

When they had difficulty coping with the workload several interviewees admitted there were times when they questioned whether they should continue with their studies.

> "*You're like my God, what am I doing here? It's all overwhelming and it's like God, do I want to be here?"* **(S166)**

When the pressure becomes too much students can cope by withdrawing from a paper to manage their workload. One student talked about her experience:

> "*I found it took up so much of my time I actually had to withdraw from it last year so I'm doing it again now. It just took up too much of my time and I had to either carry on doing that one or drop the other thing, so it was easier to drop that one*." **(S296)**

The following quotes show how a number of interviewees had reduced their workload to make it more manageable by only enrolling in three papers after struggling with a full time course the previous semester.

> "*I've pulled out of one of my papers this semester and done three. I think the workload is much more manageable. Four is sometimes quite unmanageable*." **(S10)**

> "*I started doing four papers, but I didn't know whether I was Arthur or Martha and I'd forget which classroom I was in and that was the reason I eventually*

dropped back, because I thought three was as much as I could cope with." **(S317)**

"*Last year I did four papers but couldn't cope with the workload so it's much easier only doing three*." **(S109)**

However, this is not an option for those on a student allowance, which requires a full-time course. One lecturer suggested three papers rather than four to a student who was struggling.

"He kept on saying, 'well, maybe you should consider doing three subjects'. I'm like, well 'it's not that easy' because if you're a full-time student you get an allowance and rely on it." **(S110)**

Dropping papers was also not an option for those who wanted to finish their degree within three years or those making sacrifices to improve their career prospects.

"*I'd like to get it done really quickly rather than taking forever*." **(S11)**

Effect on learning

The interview comments revealed that a heavy workload was often not conducive to understanding and learning in-depth. One essential aspect of quality learning is the development of metacognition which requires time to review study material, and review and learn from feedback on assessments. Student 311 recognised that:

"If you don't review what they do in class you kind of get lost and you definitely don't understand it."

Some comments in the interviews indicated metacognitive development would be difficult to achieve where students were faced with the pressure from the timing and number of assessments, and an overstuffed curriculum.

"I like to make my own notes but I've been struggling to keep up with the reading and writing notes and I have to say to myself do I make my own notes or start my assignment in the short time that I have." **(S310)**

Student 60 spoke about how the number of assessments prevented her from learning from feedback on assessments.

"You'll kind of look over it but you've got so much other stuff to concentrate on you don't really take in the feedback. I don't feel that you really learn anything."

Those students who wanted to do background reading to increase their understanding and gain a wider perspective of the subject found that a heavy workload made this difficult. The following quotes illustrate this:

"*Every other paper is throwing information at you as well as assignments. So quite often I think I might look at something and go oh, yeah, I must read that but it's still sitting in the folder waiting for me to read it."* **(S55)**

"*You're sort of thinking, 'read for the class, read for the class, read for the class, ah, assignment's due!" So it's like, I don't know, do you scrap reading and just concentrate on the assignment."* **(S310)**

Another student also claimed that the heavy workload, due to the number of assessments, restricted his reading and revision.

"*For every two hours you spend in lectures you should really be doing two hours of revision or reading but that doesn't help you with all the assessments, so you get by*." **(S318)**

A number of comments were made in the interviews that could be linked to the learning goals students adopted and their relationship to approach to learning. Student 21 for example, appeared to adopt a purely learning goal and the questionnaire data and his comments indicated that he followed a deep approach.

"*I wouldn't worry about the marks. I was wanting a complete aspect so anything I saw as important I'd go and research it and do it. Yeah, for me it's interest*. *I didn't want to learn just a little bit. I came out knowing a lot more, four or five times more than anyone else*."

Student 317 adopted a deep/strategic approach to learning according to the questionnaire data and her comments indicated she embraced both a performance goal and a learning goal.

"I use the marking schedule when I'm doing my work but I'm also aiming to learn as much as possible."

Summary

The findings indicated that students experienced a range of negative feelings and adopted a variety of strategies to cope with the workload pressures, some of which were not conducive to quality learning. A heavy workload also led to some students dropping a paper in order to make their workload more manageable. The interview comments raised a number of issues around workload including the clarity of assessments, weightings which reflect the amount of work involved, and a consideration of the timing of assessments. The next section reports on the results of Part B of the questionnaire regarding approaches to learning adopted and discuss the relationship between workload and students' approaches to learning.

Research Question 4

What approaches to learning are students reporting and how are these related to workload?

Approaches to learning reported

Part B of the questionnaire, the reduced ASSIST instrument, was analysed to find out what approaches respondents reported. Respondents rated items on a 1-5 scale (5 high) and sub-scale scores were formed by adding together responses for the items in that sub-scale (see Appendix A for sub-scales). Scores on the three main approaches were created by adding together the sub-scale scores which contribute to each approach, then taking the highest score in order to categorise each student, in line with the ASSIST guidelines (Entwistle, Tait et al., 2003).

The results are summarized in Table 11 which shows the maximum and minimum scores for each of the sub-scales, where the highest possible score was 60 for each category.

Table 11 *Descriptive Statistics for the Scores of the Three Approaches*

	Deep	Strategic	Surface
Minimum	14	16	16
Maximum	59	59	58
Mean	43.0	40.3	34.3
Standard Deviation	9.4	3.8	9.4
Number of students (n)	150	69	50

It is important to recall that the developers of the ASSIST instrument (Entwistle, Tait et al., 2003) warn that it is wrong to try and put any student wholly into any one category and that the results are just an indication of the relative prominence of each approach to learning in any student.

The data were also analysed to find out how many respondents could be categorized deep/strategic and surface/strategic, as signalled in the concept map for the ASSIST instrument discussed in Chapter Three (see Figure 4 p.62). Where there was a clear distinction (i.e. more than five points based on the Likert scale with 5 the highest) between the scores on the deep and surface categories, and the next closest score was the strategic category, these could be clearly categorized as either both deep and strategic or both surface and strategic.

Table 12 *Examples of Scoring Procedure for Approach to Learning*

Student	Deep	Strategic	Surface	Category
1	41	34	37	Deep/Surface
10	39	41	49	Surface/Strategic
18	35	51	44	Strategic/Surface
21	59	34	18	Deep/Strategic
27	41	48	31	Strategic/Deep

Where the margin between the scores on the deep and surface categories was five or less, it was less clear and the individual was categorized as deep/surface. Table 12 gives some examples of this scoring procedure.

This mirrors the results found by other researchers (Entwistle et al., 2000; Meyer, 2000; Meyer & Muller, 1990) regarding the dissonant patterns of response discussed in Chapter Three, for which there is no definitive explanation at this time.

The numbers in each category can be seen in Table 13. The expected patterns of response were present with those definitively categorized as deep/strategic or surface/strategic. Those categorized deep/surface fall outside the expected responses, with 26% in this category.

Table 13 *Comparison of Combined Approaches to Learning*

Deep/Strategic	Surface/Strategic	Deep/Surface
167/269 (62%)	33/269 (12%)	69/269 (26%)

Gender and age comparisons

Approach to learning was compared to gender and the raw data in Table 14 were analysed using a chi-squared test. This showed no significant difference between the genders (Chi-squared value 5.43, p>0.07, $df2$).

Table 14 *Approach to Learning According to Gender*

Gender	Deep	Strategic	Surface	Total
F	80 (52%)	48 (31%)	27 (17%)	155
M	70 (61%)	21 (18%)	23 (20%)	114
			Total	269

The data in Part B of the questionnaire were also compared to the age group of respondents. The raw data in Table 15 were also analysed using a chi-squared test. This showed no significant difference between the age groups (Chi-squared value 5.26, P>0.07, $df2$).

Table 15 ***Approach to Learning According to Age Group***

Age	Deep	Strategic	Surface
<23 years	60 (51%)	28 (24%)	29 (25%)
≥23 years	90 (59%)	41 (27%)	21 (14%)
		Total	269

Relationship between approach to learning and workload

The majority of respondents claimed in the questionnaire that their workload was heavy or unmanageable at times, but the numbers of students reporting a deep approach, and the numbers in the deep/strategic category were greater than would be expected given that a heavy workload drives generally students towards a surface approach to learning (Entwistle, 1988; Kember, 2004; Kreber, 2003; Lizzio et al., 2002). There are a number of possible explanations for this.

Students may have responded to the questions in the way they thought would be expected or they reported their preference or propensities rather than their actual learning approaches. It is possible that they may have had the intention to adopt a deep approach but the number, timing, or nature of some assessments may have forced them to adopt a surface approach at times. For example, on the questionnaire Student 179 scored 49 out of 60 on the deep category, 39 out of 60 on the strategic category, and 24 out of 60 on the surface category, indicating he adopted a predominantly deep or deep/strategic approach. This was confirmed in the interview when he talked about being highly motivated to learn as much as possible referring to "*the enjoyment of learning*" and stated, "*I'd rather be studying than just socialising*." However, many of his interview comments also pointed to his frustration with the heavy workload which he claimed affected the time available to explore topics in depth. *"You don't have the time to do the best you can on each assignment, I find. At the end of the day it just has to come down to time."*

This contradiction can also be demonstrated by comparing responses to two of the statements in the instrument. Statement 6 in Part B of the questionnaire was designed to indicate a surface approach: *I find I have to concentrate on just memorising a lot of what I have to learn.* Statement 4 was designed to capture the deep approach: *I usually set out to understand for myself the meaning of what we have to learn*. Respondents could possibly agree with both these statements if their intentions were to adopt a deep approach but the nature of the assessments forced them to take a surface approach.

To test this, responses to statements 4 and 6, using a five-point Likert Scale, were compared in Table 16. If a respondent agreed with these statements they would rate this 4 or 5. It can be seen that there is evidence that respondents may be agreeing to both statements with 42% (113 out of 269) of total responses rating both these two statements a four or five suggesting that they are agreeing or strongly agreeing with two discrete approaches to learning.

Table 16. *A comparison of statements indicating a surface and a deep approach*

	Response to Question 4				
Response to Question 6	1	2	3	4	5
1	1	1	0	1	1
2	3	9	4	18	6
3	0	6	4	12	6
4	6	39	8	42	27
5	12	15	4	26	18
				Total responses = 269	

There is also the possibility that the results were confounded by students ignoring the instruction to rate statements in the ASSIST instrument with just one course in mind. In the first part of the questionnaire they had to answer the questions with their **whole** programme in mind then change to one course for Part B. If they did not read the instructions carefully they may have had a range of courses in mind that required different approaches. This may explain why the scores for some respondents were close for both the deep and surface categories.

Figure 15 illustrates a comparison between the two expected categories of approaches and students' perception of their workload from the questionnaire data, omitting the dissonant pattern of response, the deep/surface category. It can be seen that for the surface/strategic approach the majority of respondents (76% or 25 out of 33) indicated that they found their workload heavy or unmanageable at times. An example of this from the interviews was Student 11 whose scores indicated that she adopted a surface/strategic approach to learning and found the

workload unmanageable at times and this was confirmed in the interview. "*It's just trying to make sure I pass mainly."* Figure 15 further shows that the majority also found their workload heavy in the category deep/strategic approach (58% or 97 out of 167).

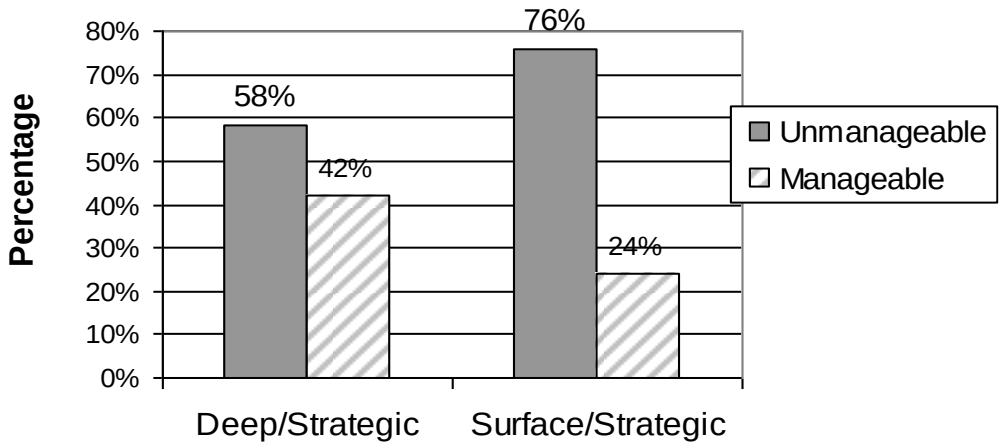

Figure 15. *Comparison between Approach to Learning and Perception of Workload*

The interview data indicated the respondents often had the intent of adopting a deep approach but in practice appeared to use a range of approaches depending on factors such as the time available, level of achievement desired, assessment requirements, and interest in a particular topic. For example, Student 8 stated:

> *"With assignments I think I sometimes learn stuff in-depth but others I just do 'cos there's another one on the way."*

A number of interesting points emerged from a comparison between the interview and questionnaire data, which resulted in a more complex picture emerging. Three of the students who had indicated on the questionnaire that their workload was manageable maintained this stance during the interviews. Their scores indicated a deep/strategic approach to learning, although they described the same pressure and stress as the students who found the workload unmanageable at times, due to the pressure they placed on themselves.

Student 166 for example, who claimed to feel pressured 100% of the time, stated that this may be due to *"the fact that I am a mature student and I don't want to spend any more time in here that I have to*." Student 103 stated, "*I think it's necessary to have the pressure. You just have to work hard and man it's a real sense of accomplishment at the end*." This group of three students also claimed that assessment issues prevented them from consistently adopting a deep approach.

> "*I could learn in more depth but because I'm just doing assessments, I'm not actually focusing on the stuff that we're covering in class or doing any extra reading."* **(S103)**

> *"I don't feel that sometimes I have the time to really explore that learning objective."* **(S166)**

Student 55 spoke of adapting her approach to the requirements of different subjects.

> *"There's quite a bit of understanding involved in some subjects and then there's rote memory in things like the statistics and professional practice type things."*

Student 110's scores indicated a deep/surface approach but he admitted to changing his approach for subjects that did not interest him.

> *"I do try to understand it but depends on if I'm interested in the subject. I know I have to pass so sometimes I have to force myself to do it."*

The data from Students 60 and 296 indicated they adopted a deep/strategic approach, although Student 60's comments suggested that her workload sometimes precluded a deep approach.

> *"I definitely learnt a lot but like things you might want to spend more time on you can't explore things in depth."*

Student 296 found the workload in one particular paper so heavy she was forced to drop it so she could concentrate on the learning and understanding her other papers.

> *"I found it took up so much of my time I actually had to withdraw from it."*

One student had changed from a belief that the workload was unmanageable at the time of completing the questionnaire to a belief that his workload was manageable. He stated that he had learned to manage his time effectively and he was highly motivated to learn, which was reflected in his high score of 59 out of 60 on the deep approach.

> *"Now I realise it isn't hard at all. It's not a matter of high workload; it's a matter of working inefficiently. I just want to learn as much as possible."* **(S21)**

Scores on Part B of the questionnaire for Students 22, 113, 59 and 109 indicated the unexpected combination of surface/deep approach. Student 22's interview comments about assessments reinforce that she adopted each approach at times. She claimed that she was interested in learning as much as possible but the nature of some assessments forced a surface approach at times.

> *"I've done some where it's been a really good assignment and I've learnt a lot and others where overall learning was minimal."*

On the other hand Students 113, 59 and 109 made no reference in the interview to any of the characteristics of a deep approach to learning. This is illustrated in the following two quotes.

> *"I don't do any extra background reading. I don't waste time on things like that."* **(S109)**

> *"I tend not to read much. I go through past exams and what they tend to focus on. I will mark it myself and go over my weak points. Basically if I get 5/10 in a question I won't be focusing on that as much as one I got 2/10 for."* **(S113)**

Evidence of a reciprocal relationship between workload and approach to learning

There is strong support for the notion that perception of a heavy workload affects a student's approach to learning in the interview comments. For example, one student expressed a desire to take a deep approach to learning but claimed the workload prevented this.

"I believe that the more information you can read gives you a greater base of understanding and ultimately more knowledge. And a lot of things that I would like to read and a lot of the areas that I would like to increase my knowledge in I just haven't had time to. I find that my reading time is just for assignments, I've got too much to do at any one time." **(S309)**

Other students also blamed a heavy workload for forcing them to adopt a surface approach to learning, as evinced in the following comments.

"*We are still running at full speed right up until the end, and keeping the pace up*. *You're almost skimming over the surface of topics*." **(S317)**

"*It's just high pressure study so you only learning it fast enough to remember just for a few days or a few hours and then literally it's forgotten because of the way you learn*." **(S18)**

Student 22 spoke of how an increasingly heavy workload forced her to change her approach from deep to surface.

"At the beginning I did it all. I just used to study, study, study and read, read, read. It has changed over the course of study due to the workload that has increased. I don't bother doing it now."

Other students had intentions of adopting a deep approach but the assessment demands sometimes precluded this.

"I just do what I need to to complete the assignment and to meet the assessment deadline." **(S166)**

"There were definitely times that I was interested in looking into a topic in more depth, but I didn't have the time which was frustrating." **(S315)**

Conversely, a student who perceived her workload to be lighter than the previous year claimed to be able to take a deeper approach to learning.

"I've had hardly any assignments this year. It hasn't been a problem so I'm able to get into more depth for the ones I have and it's more satisfying." **(S316)**

Evidence is weaker for the other direction but there are some indications in the interview comments that a student's approach to learning may influence their

perception of the workload, and this may be related to their motivation. Those students who adopted a deep approach and were highly motivated to learn, put pressure on themselves, which influenced their perception of the workload. Student 307 spoke about how she enjoyed learning and wanted to learn as much as possible but this contributed to a perceived heavy workload.

> "*Honestly, I over research everything and I actually probably get myself into a bit of a mess sometimes with it. It's probably got no relevance to what you're actually doing but it's actually quite interesting and it's hard to stay on the track*. *It definitely puts extra pressure on and takes more time*." **(S307)**

Another student spoke of how adopting a deep approach increased her workload.

> "*With assignments you're constantly thinking of what you're writing and if you want to write something that makes sense you've got to be able to understand it before you can write it, which puts me in a bad position because instead of just doing it and getting it done I put myself in a position where I have to stay up until the wee hours of the morning*." **(S310)**

Conversely, there were students who adopted a surface approach and approached their study with little interest, doing minimal work. They left their assessments until the deadline forced them to study, influencing their perception of the workload as being heavy. The following quotes are from students who claimed in the questionnaire that the workload was unmanageable at times and analysis showed they adopted a surface approach to learning.

> "*I feel really pressured about 60% of the semester. I know I could do better but that requires organisation and forward thinking and that's not me. Nothing motivates me, it seems to me that I need pressure to be able to do anything*." **(S109)**

> "*Study is number three on my list of priorities. Once it gets down to crunch time I have to sit down and do it and quite often I'm up till six or seven in the morning doing my assignments because I've left it so late. Before that I tend to procrastinate about it a lot so sometimes I've got very high levels of stress."* **(S113)**

In addition, where assessment encourages a surface approach this promotes perceptions of a high workload.

> "*I have to work very hard to get through exams. I find a lot of pressure with exams I mean, you've got masses of information to learn."* **(S166)**

Summary

The results from Part B of the questionnaire showed that majority of students fitted the expected response categories of deep/strategic or surface/strategic. A large group also scored high on both the deep and surface categories and a number of reasons were explored to explain this including that they may represent the dissonant patterns of response found in other studies. There was no evidence in this study to suggest that approach to learning was influenced by gender or age.

When a comparison was made between workload and approach to learning it was found that the majority of respondents were classified surface/strategic and workload unmanageable or heavy at times. This confirms other studies that a heavy workload drives students to adopt a surface approach. However, there were also a large number of respondents who adopted a deep/strategic approach in the workload unmanageable category compared to those who felt it was manageable. During the interviews statements were made which indicated respondents had the intention to adopt a deep approach but circumstances drove them to adopt a surface approach at times.

Chapter Summary

The findings from the data confirmed that a heavy or unmanageable workload was perceived by the majority of the students in this study to be a problem affecting them at times and the interview data suggests that the magnitude of the problem is probably higher than the questionnaire data indicated. The reasons cited for perception of a heavy workload in other studies were confirmed as the same reasons affecting students at the regional polytechnic where the study was conducted. Analysis of the interview data provided valuable

insight into the effects of a heavy workload, the feelings this engendered, and the range of strategies students adopted to cope with this. The majority of respondents claimed to adopt a deep/strategic approach to learning but evidence in the interviews was contradictory in some instances suggesting the intention was to adopt a deep approach but the workload precluded this. There was also evidence of a reciprocal relationship between perceived workload and approach to learning. This was strong in direction of perceived workload influencing approach to learning but there was also some evidence of approach to learning influencing perceived workload.

The sheer number of assessments due in a short time frame was a major issue for respondents and many believed that their learning would improve if assessments were more spread out. This issue was also related to too many learning outcomes for the time frame making it difficult to develop metacognitive skills. There was evidence in the interviews that approach to learning was also related to the goals students adopted; a learning goal appeared to be related to the deep approach, and a performance goal appeared to be related to a surface or strategic approach. Comments in the interviews also revealed the range of skills and experience students possessed and the need for different levels of support. Procrastination emerged as an issue in time management and it was revealed that those with the greatest time pressures were students with both family responsibilities and part-time jobs. Study environment and interruptions from family also impacted on the stress experienced by students.

A much more complex picture emerged of the reasons for perception of a heavy or unmanageable workload, and the reciprocal relationship with approach to learning, than envisioned the original concept map in Chapter One. A revised concept map showing the inter-relationships between the various influences on workload and approach to learning is presented in the next chapter and the various themes discussed.

CHAPTER FIVE
Discussion

Introduction

The results from the data analysis did not challenge my own views of the workload issue, confirming what I believed to be the case. However, I was pleased and surprised by the response I received to this study and what students were prepared to share with me. I gained a much deeper insight into the complicated lives students often lead, the range of issues in the teaching and learning environment, and the effects these have.

This discussion chapter centres on four significant themes that emerged from the data analysis. These are the number and timing of assessments and overloaded curricula; time management and the commitments students have other than study; the role of lecturers in supporting students and their skill development; and the pivotal role played by motivation. The discussion reiterates key results, compares these to the findings in the literature, and considers the implications for the teaching and learning environment in this context. These issues are all inter-related, however, for the sake of clarity, they have been considered separately in this discussion. A revised concept map is presented at the end of the chapter to illustrate the inter-relationships between the key themes.

Assessment and curricula issues

The number and timing of assessments emerged as the main issue related to perceived workload and approach to learning. For Part A of the questionnaire, analysis of the data indicated that assessments all due around the same time ranked number one, with 90% of respondents overall indicating this influenced their perception of the workload as being heavy or unmanageable at times. This was also an issue commented on by 29 out of the 30 students interviewed. For example, "*We would have up to at least four assignments due at any one time, that's excluding the tests so it became a very heavy workload*" **(S18).**

Despite over-assessment being included in the list of interview questions, no student specifically mentioned this. It was surprising given the number of assessments students faced that they did not consider this as over-assessment. Many of the interview comments centred on the problems caused by the short time frame given to complete a number of assessments and the impact this had on approach to learning, such as the following: *"I like to make my own notes but I've been struggling to keep up with the reading and writing notes and I have to say to myself do I make my own notes or start my assignment in the short time that I have*" **(S310)**.

The interview data confirmed Gibbs and Simpson's (2005) assertion that heavy assessment demands become the whole focus of students' study. Rather than allocating some independent study time to reviewing course material, reading for more in-depth knowledge, or learning from feedback, many students in this study claimed the heavy workload only allowed time to work on assessments, as found in other studies (Bryson & Hand, 2007; Mullins et al., 1995). This has implications for the development of metacognitive skills and the quality of learning, as signalled by Case and Gunstone (2002). Many interviewees claimed that they could learn more in depth if the assessments were more spread out, and gain more satisfaction from the learning experience.

Some researchers question the veracity of expecting all students to pursue a deep approach to learning in all courses (Haggis, 2004), and there was support for this in the study. Some students had commitments that precluded them from adopting a deep approach that ideally lecturers would prefer, whereas others adopted a surface approach in courses they had little interest in.

Boud (1995) argued that the ways in which students approached assessments due at any one time was influenced by the total array of demands from other assessments in their programme of study, which was the case in this context. Students disclosed their coping strategies for a perceived heavy assessment workload, which were often not conducive to quality learning. Some interviewees, for example, coped by studying all night, which has been associated with inappropriate study methods (Kember & Ng, 1996).

The pressure experienced from a lack of cross programme communication about the number and timing of assessments signalled in the literature (Hinton & Tickner, 2000) was shown to be an issue in this context also, with several respondents arguing that more could be done to alleviate this problem. This is a challenging issue since the students in this context mix and match papers from different programmes and even different faculties, so it is not simply a matter of lecturers negotiating assessment deadlines to arrange a reasonable spread.

Part of the problem of too many assessments in this context can be linked to the use of mainly summative assessments used for grading purposes. There are fewer opportunities to learn from feedback where students are always moving on to the next assessment, as shown in the following comment. *"You'll kind of look over it but you've got so much other stuff to concentrate on you don't really take in the feedback. I don't feel that you really learn anything"* **(S60).**

Another issue associated with the number and timing of assessments relates to over-stuffed curricula (Fox & Radloff, 1998), with courses having too many learning outcomes to be assessed over a semester. *Too many topics to cover in a short time frame,* was ranked the fourth most important influence on perceived workload for Part A of the questionnaire. Overloaded curricula also have implications for the pace at which content is delivered making it more difficult for students to grasp key concepts, as illustrated in the comment: "*The effect that this has on my learning is that I get very confused and I don't know what I'm doing because class is teaching me something and I'm way back here somewhere*" **(S296).** Students in this study admitted to feeling overwhelmed or frustrated, experiencing problems with time management, taking short cuts, and being unable to explore topics in depth, which mirror problems signalled by other researchers (Marsh & Roche, 2000; Ramsden, 1997).

Dealing with so much information delivered at a fast pace leads to the difficulty of students knowing what to focus on when studying, with half of the respondents to the questionnaire indicating this was a problem. Students admitted to problems recognising the relevant from the irrelevant, as found in previous studies (Biggs, 2003; Kember & Leung, 1998), and complained that lecturers could

do more to emphasise or signal important concepts. Angelo and Cross (1993) recognise the importance of lecturers being aware of what their students are focusing on.

If students are to perceive their workload as manageable they must have a reasonable amount of time to pursue a deep approach to learning. A number of research findings suggest that lecturers poorly match their workload expectations with the time students require to study (Fox & Radloff, 1998) and this appears to be true of this context. Reducing the number of learning outcomes in courses has the potential for positive outcomes for both students and lecturers. Ensuring that students face a feasible number of assessments with adequate time frames for completion, has the potential to influence workload perceptions, facilitate the development of metacognitive skills, and improve the quality of learning. This would also assist lecturers to focus on course planning and design aimed at quality learning, rather than obsession with coverage, which the literature signals as a common problem in higher education (McInnis et al., 1995). Students need time to focus on key concepts and lecturers would have more time to facilitate this. Lecturers working in isolation to review the curricula and assessments of their own courses, with a view to making the perceived workload more manageable, are likely to have little impact as the various inter-related elements need to be treated as an interacting whole, including curriculum design, assessment, workload, support provided, and skills development.

Time management and commitments other than study

Time management emerged in the questionnaire responses as the third overall reason influencing perceived workload and was commented on by all respondents. This issue is inter-related with the previous discussion point, as some students commented that they wanted to learn as much as possible and gain an in-depth understanding of their subjects, but claimed that time pressures precluded this. For example, "*A lot of the areas that I would like to increase my knowledge in I just haven't had time*" **(S309)**. This endorses studies discussed in the literature review that concluded that students often feel that they do not have

time to invest in adopting a deep approach to learning (Case & Gunstone, 2003; Thomson & Falchikov, 1998). Introducing more innovative assessment methods rather than focusing on summative assessment could help here. More formative assessment could alleviate the problem of students leaving substantial assessments until close to the deadline, encourage better time management, and a deep approach to learning (Bandura, 1997). An approach known as The Patchwork Text, which involves a series of short assignments that can be marked relatively quickly, provides rapid, regular feedback more useful for learning (Winter, 2003).

The interview data also endorsed conclusions in the literature that referred to students' unrealistic expectations of workload and time involved in tertiary study, resulting in time management problems (McInnis, James et al., 2000). For example, "*I didn't really realise how much time this was going to take up"* **(S307)***.* This signals the need for clearer, in-depth pre-enrolment information about the total time involved in a programme of study.

A number of students interviewed admitted to poor time management, and though aware that the use of planning tools such as diaries could be useful, they were satisfied with their current strategies and could not see the point of changing. This was clear in the comment from Student 311: *"I do realise having diaries and writing things down does work but I'm just not one of those people who writes things out, but you know, it works for me."* Students taking courses that held no interest for them, or who lacked motivation, attributed their poor time management to procrastinating, leaving assessments until shortly before the deadline, as found in previous studies (Bryson & Hand, 2007). This prompts the question of why some courses held no interest and students felt they lacked motivation, which have been associated with the stimulation provided in the teaching and learning environment (Kember & Leung, 2006).

The literature referred to students with who found their workload excessively heavy due to pressures external to the institution (Kolari et al., 2006) and was confirmed in this study. The interview data revealed the complex inter-relationships between time management and commitments other than study that

affected students' ability to manage their time including needing to work part-time, family commitments and problems, socializing, and study environment issues.

The questionnaire data revealed that part-time jobs had the most substantial effect on time management ranking at second overall for perception of a heavy workload. The levels of part-time work undertaken by participants in this study were similar to those found in other studies (Barwuah et al., 1997; Cope & Staehr, 2005) with 50% working for more than 15 hours per week. The interviews subsequently revealed students' need to work and the extra strain this placed on them with the degree of pressure experienced determined by factors such as the nature of the job, the type and timing of work, and the flexibility of the employer.

Family commitments emerged as the fifth overall influence on perceptions of a heavy workload. Interviewees spoke of chaotic lives and juggling the priorities of family and children. For example, *"It is full on and I guess I just keep going and fit everything in*. *I fill every minute then your children get sick and they get tired and it's like I sort of count the hours in a day and sometimes I'll set my alarm for three in the morning*" **(S314).** This confirmed results from Thomas' (2002) study. Comments were also made about the strain on relationships, and feelings of guilt when families felt neglected. The interviews revealed that the degree of family support influenced students' ability to cope with these pressures.

It also emerged from the interview data that having a part-time job and family responsibilities often resulted in the greatest time stress. Student comments pointed to 'satisficing behaviour' and making 'trade-offs' (Yorke, 2006, p.5), affecting their level of commitment to a programme of study, or the level of academic achievement they settled for. For example, *"I have quite large time commitments with part-time work and family so a pass is enough for me*" **(S149).** Students in this situation claimed they were good time managers but felt there was never enough time available to fulfil all the conflicting demands on them. This affirmed statements from the literature (Kolari et al., 2006) claiming that students need a balance between study and life outside the institution or they experience excessive pressure.

It is important that lecturers are aware of the pressures that individual students face and collecting student profiles at the start of a course can alert lecturers to these. They also need to have empathy for students who juggle study with a myriad of other responsibilities and work to minimise any barriers to learning within the institution, such as allowing more flexible deadlines. Pre-enrolment interviews could also be available to discuss commitments other than study and the implications these may have for time management.

The literature includes studies that point to interruptions while studying and study environment problems adding to time management difficulties and influencing perceived workload (Hatcher et al., 1991), and these issues also emerged in the interviews. Students with families spoke about the problem of children interrupting their study, "*You'd tell them not to interrupt you but it didn't work very well"* **(S307)**. A number of interviewees who were seeking a quiet place to study complained that the library was not always conducive to study as it was often noisy, or the opening hours did not suit. This is a difficult problem to solve as, despite the best efforts of the librarians, the design of the library encourages noisy interaction. In addition, the small numbers of students involved make it uneconomical to extend the opening hours in the evening or at weekends.

Time spent socialising affected the ability of some students' to manage time according to the data, typically those in the younger age group who had no commitments other than study. This was associated with procrastination, paralleling findings in a study by McInnis et al. (2000). Procrastination was also signalled as a problem for students who were keen to start their assessments as soon as they received them. The interview data revealed that these students often felt they did not have all the necessary information or understanding of requirements, which led to them to procrastinate.

Managing time is an important element of quality learning, however, students are often reluctant to make changes for a number of reasons including lacking the motivation to change, satisfaction with the status quo, or other commitments which take priority over study. It is possible for students to develop more efficient strategies through advice from lecturers or work out this out for

themselves through necessity. It is often those with the most commitments that manage their time most efficiently. For example, *"I know I don't have enough time, but what I do I believe I manage reasonably well because I have a lot to achieve"* **(S149)**.

Role of lecturers in student support and skill development

Three issues emerged from the data related to this theme and also impacted on time management. These issues are students being unable to get help with study when needed, lecturers assuming students posses the required skills to complete an assessment, and students feeling they do not have the necessary skills required to cope with an assessment.

Although it was reassuring to find that the majority of lecturers were very supportive, it was disappointing that 22% of respondents felt that they were unable to get help with study when needed. Interviewees spoke of the difficulties this causes, confirming findings from other studies that the amount of support from lecturers can influence students' perception of workload and their approaches to learning (Entwistle, 1998; Hatcher et al., 1991; Ramsden, 1997). The complaints included lecturers lacking empathy for students' personal problems, unclear assessments, lack of availability, and refusal to help, summed up in the following quote: "*Some lecturers aren't that helpful and they make the learning and the paper a lot more difficult than it needs to be"* **(S309)**.

There is support in the literature for the notion that students feel powerless to complain about lack of help from lecturers, or suspect that if they did they would be punished by more biased marking (Bryson & Hand, 2007). This emerged as an issue in this study with several students expressing this view. Students also complained that lecturers often did not take into account what was expected by other lecturers in a programme in terms of workload, a problem reported in other studies (Hassall & Joyce, 2001).

Perceptions of workload can also be influenced by student-student relationships according to Kember (2004), and some interviewees referred to this, claiming it reduced the workload pressure when they could work with other

students to discuss ideas. There were complaints however, that some lecturers were not always supportive of students collaborating with other students. Ensuring that lecturers are empathetic, provide the support students require, are available to assist students outside classroom contact hours, and facilitate student-student relationships, are essential elements in improving perceptions of workload and impacting positively on students' approach to learning. The data showed that students need support, and research shows that this support can be effective when provided as part of a learning community (Prebble et al., 2005).

One aspect of a learning community involves mentoring systems, which have been shown to assist students to adapt to the higher education environment, to provide academic support, as well as assist with the range of problems and issues students face (Kozel, 2002; Prebble et al., 2005). The qualities of a successful mentor include being available, encouraging, and empathetic, and having a knowledge of campus support services (Cramer & Prentice-Dunn, 2007; Nora & Crisp, 2008).

The second issue related to this theme involves *lecturers assuming the required skills to complete an assessment,* which was rated as the eighth reason overall for perceived heavy workload by respondents to the questionnaire, and confirms findings from the literature (Hassall & Joyce, 2001). The interviews revealed that this involved assumptions of both prior experience, and study skills such as how to write an essay or carry out research.

The interview comments revealed that there was a range of prior knowledge and experience, and differing skill levels within courses, which respondents felt was not being recognised by lecturers. Students who were recent school leavers, for example, claimed that they were penalised because they did not have the prior experience expected by lecturers. Students in the older age bracket on the other hand claimed that they were penalised compared to school leavers when lecturers assumed possession of generic study skills. It also emerged that problems arose where courses had prerequisites and lecturers assumed prior knowledge with no revision provided.

Lecturers in this context need to be given the opportunity to examine their assumptions, be made aware of the impact these have on students. They need to formulate strategies to cater for the range of prior knowledge, experience, and skills possessed by students in their courses, on the basis that students have the ability to build their knowledge rapidly.

It was surprising that *not having the required skills for an assessment,* was signalled as a problem by only 27% of respondents, given that the research shows that students do not generally enter higher education equipped with the skills required and do not develop effective skills as they gain more experience (Chalmers & Fuller, 1996). It may be that some students are reluctant to admit to problems, or do not recognise problems with their generic skills.

For those students who commented on this problem in the interviews it was clear that it added substantially to their workload, and impacted on time management and approach to learning. An example of this was the comment from Student 55: "*I wish that we'd learned about referencing and the formatting, because I've probably wasted literally hours with designing essays and things."* This also ties in with other studies reported in the literature (Kolari et al., 2006; McInnis et al., 1995). There were further complaints that there was no consistency of requirements between lecturers in report writing for example, and trying to work out what a lecturer wanted caused confusion and added to the perceived workload.

The solution to improving subject specific study skills often involves written generic study material or one-off study skills sessions. Those who had received tuition in generic study skills as a one-off session with either library or learning support staff, spoke of the value of this in the interviews, although, they admitted that the timing was not always ideal as they had spent many hours prior to this struggling to learn the necessary skills.

Lecturers in this context need to challenge the commonly held belief that students enter higher education with the required pre-requisite skills. Rather than consigning the teaching of study skills to learning support units, and treating students' problems as a kind of pathology that can be fixed, lecturers should support a developmental approach to generic study skills taught within the context

of individual courses, which is considered to have the greatest likelihood of success (Chalmers & Fuller, 1996). If this approach is adopted it needs to be addressed collectively by all lecturers in a particular programme, as a consensus must be reached about what skills should be taught, how they should be developed, and at what stage they should be introduced.

However, McCune (2003) found in her study that students rarely took advantage of study skills materials or advice offered as they believed that this would not add to what they already knew about studying. These students often felt that their current methods were working well enough and therefore did not see any need to make the effort required to change. Some students also saw themselves as fixed in their methods, unable to change even should they wish to do so. Honkimaki, Tynjala and Avalkonen (2004) also found that some students were not responsive to attempts to improve their skills. There is support in the literature for the notion that some students are unwilling to resolve their problems by absenting themselves or ignoring their deficiencies, and are mainly resistant to attempts to change the way they learn (McCune, 1998). It should also be recognized that the problem is not always a lack of study skills but rather a lack of editing due to last minute assignment writing (Haggis, 2003; Vardi, 2002).

The pivotal role of motivation

Motivation plays a pivotal role in students' perception of workload and approach to learning being inter-related with a number of other factors including time management, particularly procrastination. Motivation can be the key to developing efficient time management skills, illustrated by the student who spoke of how he was highly motivated to learn and over the years of his study he developed more efficient time management skills. Several students who lacked interest in their courses or could not see the relevance of a course lacked the motivation to study and procrastinated until shortly before the assessment deadline.

Where students see tasks as external impositions they are likely to be motivated to expend a minimum effort to meet task demands (Kember et al., 1999),

and this was evident in this study. The interview data also confirmed Biggs' (2003) assertion that workload is more likely to be perceived as heavy when motivation is purely extrinsic, such as studying to gain a qualification to improve career prospects. Further factors influencing motivation that emerged in the interviews was the pressure felt from family expectations and sacrifices made for family, plus fear of failure.

Some students were highly motivated to succeed and placed pressure on themselves to achieve high grades. '*I kind of pressure myself more than maybe the tech pressures me"* **(S60)**. A number of other students spoke about the pride and satisfaction in their achievements and how this motivated them to keep going.

Interviewees commented on how enjoying their courses helped to motivate them, although it was not clear what aspects of the environment engendered this enjoyment. Kember and Leung (2006) claim that a suitable teaching and learning environment can motivate students to work hard without perceiving the workload as excessive. On the other hand students spoke about lacking motivation in compulsory courses that they could not see the relevance of, as summed up this quote. "*You don't feel any guidance from the tutor. Apparently it was supposed to give us an insight into what businesses were like but I sort of failed to make the connection*" **(S18).**

This could suggest that students may have found the teaching and learning environment in particular courses lacking stimulation, leading to a perceived heavy workload. For example, the following comment appears to suggest that the theory may be delivered in dull, uninteresting fashion, making it very difficult to concentrate on in class. "*I'm not very good at concentrating when they explain those things. The theory side I don't enjoy and whatever they give me, even if it's not that much, it seems too much for me*" **(S311)**. Research shows that lecturers often teach as they were taught, just delivering content in lectures rather than taking responsibility to motivate students (Ballantyne et al., 1999).

If motivation arises from a context rather than being a fixed attribute of the student, as suggested by Ramsden (1997), then the data in this study points to the need for a more stimulating teaching and learning environment where students feel

more involved and lecturers work hard to capture the interest of the student. This is particularly important in compulsory courses, where lecturers need to ensure students understand the relevance in the course, or, alternatively, to question the need to include the course. Lecturers must take some responsibility for motivating students by providing a stimulating environment rather than "perpetuating an adherence to traditional teaching methods and strategies without reflecting upon the appropriateness of such methods in bringing about high quality learning" (Ballantyne, Bain & Packer, 1999, p.237).

Motivation has been shown to be related to the learning goals students adopt (Watters & Watters, 2007) and there was evidence from the data of a relationship between students' goals and their approaches to learning. A student who appeared to adopt a purely learning goal, adopted a deep approach to learning according to the questionnaire data and his interview comments. "*I wouldn't worry about the marks. I was wanting a complete aspect so anything I saw as important I'd go and research it. Yeah, for me it's interest*. *I didn't want to learn just a little bit"* **(S21)**. On the other hand there were students who admitted they just wanted to pass with minimal effort so they had a performance goal and a surface and/or strategic approach to learning.

Revised concept map

It is now clear that the original concept map presented in Chapter One was a simplistic view of the two aspects of the teaching and learning environment; perceived workload, and approach to learning, which were the focus of this study. Figure 16 is a revised concept map based on all the issues that emerged from the data, and illustrates a much more complex picture of inter-related influences and issues. The two areas of focus for this study; perceived workload and approach to learning, are highlighted in dark blue and placed at the top of the map with links to the areas the evidence showed directly influenced them. The reciprocal relationship between perceived workload and approach to learning was confirmed, although the evidence was stronger for perceived workload influencing approach to learning than the other way around. This is shown by the arrows in dark blue, a

thicker arrow indicates the strong evidence for perceived workload influencing approach to learning, and a thin one for the opposite relationship. The four main themes on which the discussion in this chapter was centred are highlighted.

The first theme discussed in the chapter revolves around curricula and assessment issues, which are inter-related and are highlighted in light blue. Both of these issues are reasons for perceived heavy workload. The light blue line also directly links both of these factors to approach to learning to indicate the direct affect on students' approaches to learning. Overloaded curricula and too many assessments in a short time frame made it difficult for students to do extra reading, review learning materials, and take advantage of feedback, making it difficult to develop metacognitive skills. The number, timing, and nature of assessments resulted in coping strategies that were often counter-productive to adopting a deep approach to learning. Each of these connections is also indicated by light blue lines and borders.

Time management, highlighted in green, is a further theme that emerged from the analysis of the data, as are the wide range of influences affecting time management. These include students' study environment and the interruptions they were subject to, with the links also shown in green. Commitments other than study: part-time jobs, family commitments, and socialising, affected students' ability to manage their time, and the effects are illustrated on the map. These include the how the pressures experienced from part-time employment depended on the type of work undertaken, the number of hours worked, and when a student worked. Sympathetic employers could help to reduce the problems accruing from part-time employment. Family commitments determined when students could study, and affected their level of commitment to their studies and the achievement level they were satisfied with. The amount of pressure experienced was also related to family support and strong relationships. The line linking part-time jobs and family commitments represents the finding that students subject to both these factors tended to experience extra time stress. Socialising is linked to students in the younger age group as this is the group where it is most likely to impact on perceived workload, and is also related to procrastination.

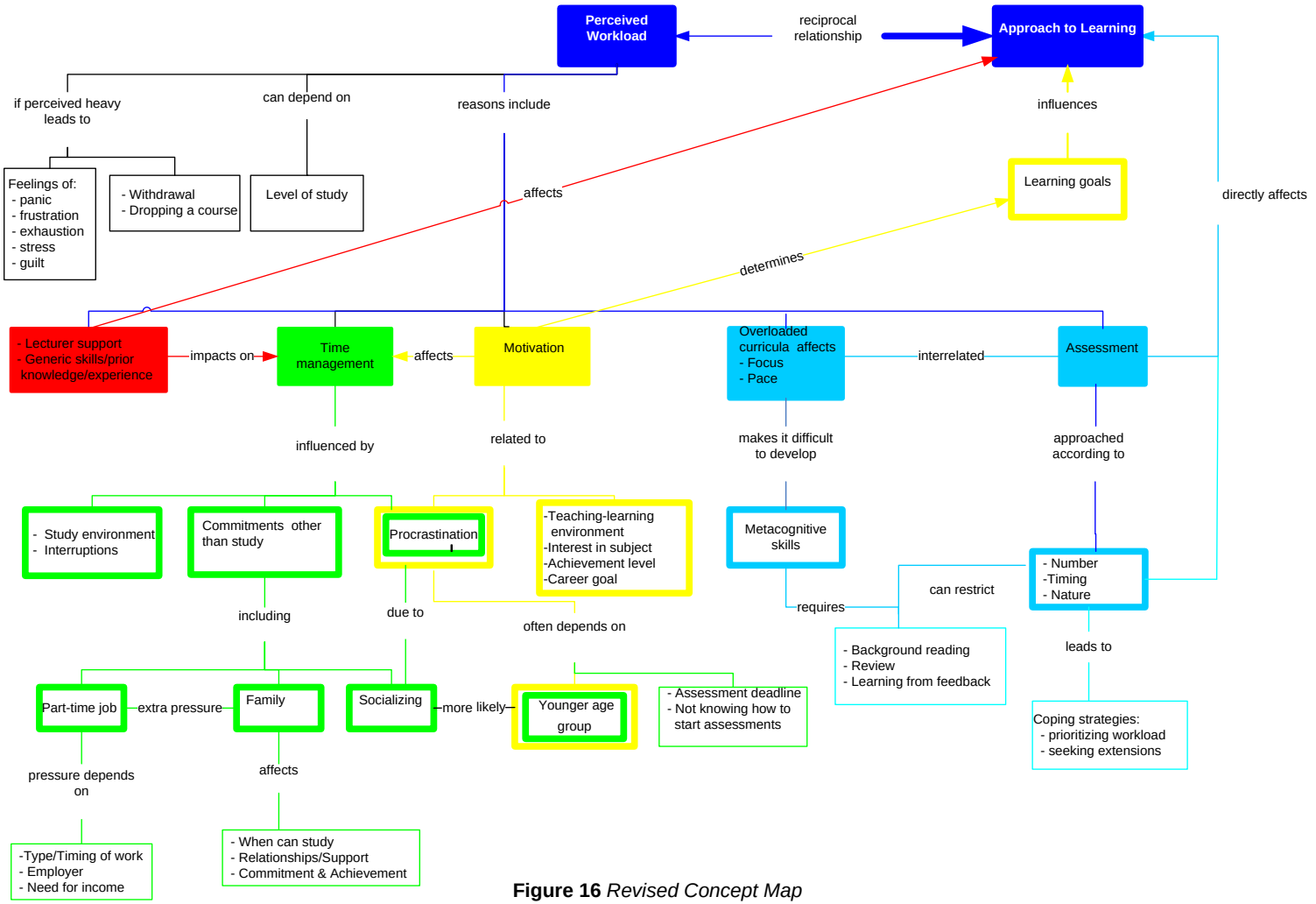

Figure 16 *Revised Concept Map*

The degree of lecturer support and students' skills, including prior knowledge and experience, was a further theme related to perceived workload. These aspects were shown to affect students' approach to learning and impacted on time management. This is highlighted in red with the lines and arrows illustrating the links also in red.

The final theme, motivation, which emerged from the data analysis is highlighted in yellow in the centre of the map. This appeared to be related to the learning goals students adopted, which in turn influenced approach to learning. This indicated by a link in yellow and learning goals are also highlighted in yellow. Motivation also appeared to play a major role in students' perceived workload. One link was to a number of factors including how stimulating a student found the teaching-learning environment, the interest a student had in a subject or topic, the level of achievement they desired, and whether they had a strong career goal.

A further link was with time management. Those who were highly motivated managed their time effectively or worked on improving their time management skills. Motivation was also linked to the younger age bracket and procrastination, illustrated by the yellow border around these aspects. Procrastination was more of an issue for those in the younger age bracket, with assessments being left until right before the deadline. Students in the older age bracket, or those committed to their studies, tended to procrastinate when assessment requirements were unclear, unrelated to motivation, and illustrated with a green border.

The peripheral issues that emerged from the data are included in black. This shows that if students perceived their workload to be heavy or unmanageable at times, this lead to a range of negative feelings or considering withdrawal or dropping paper. Workload perceptions could also change depending on the level of study.

Chapter Summary

A number of key issues emerged from the discussion related to students' perceived workload and approach to learning, highlighting areas requiring changes in the teaching and learning environment at the institution. It was suggested that

the curricula across a programme of study are reviewed to ensure students can pursue interest and understanding in assessments in the time they have available for study. Reducing the number of learning outcomes could assist lecturers in designing courses that involve students in more active learning strategies and ensure they are focusing on key concepts. This would allow time to pursue a developmental approach to the teaching of generic study skills within the context of courses. It was also suggested that lecturers need to take responsibility for supporting and motivating students by providing a responsive and stimulating teaching and learning environment.

The revised concept map is a visual summary of the chapter and represents how my thinking has shifted considerably from when I started the study. The map reflects Kember's (2004) assertion that there is a "strong probability that perceived workload and approaches to learning are co-dependent upon a range of curriculum factors, which may all act in concert or be highly inter-related directly and/or indirectly in complex patterns" (p.181). It became evident that changing students' perceptions of their workload would require more than just simple solutions such as reducing the number of learning outcomes and assessments. Clearly perceptions are related to a range of issues all acting in concert and major changes in the teaching-learning environment will be required to mitigate perceived workload.

CHAPTER SIX
Recommendations and Conclusions

Introduction

The overarching aspirational goal of this study was to make a contribution to improving the quality of learning at the regional polytechnic by studying the effects of perceived workload on approach to learning. Therefore, I wanted to make recommendations that really will make a difference. The evidence from this study has convinced me that positive changes in workload perceptions and approach to learning will require changes in teaching and the recommendations reflect this. However, it is recognized that student perceptions need to be compared with teachers' views before such judgments can be made.

Suggestions are given regarding steps that individual lecturers could implement to make improvements within their own courses, and though these are important and necessary, my research has convinced me that these could result in superficial changes. Since many of the issues are inter-related, influencing perceived workload and promoting a deep approach to learning will require changes in a number of areas at the programme level. The major recommendations are best implemented concurrently so are centred on a long-term, collaborative, action research project undertaken by lecturers in a programme. This would be a huge and difficult undertaking but has the potential to positively impact on the quality of learning at the polytechnic.

This final chapter discusses four recommendations suggested by the results from the study and supported by studies and ideas from the literature. These ideas go beyond those already covered in the literature review but are necessary to support the 'wide' recommendations. Suggestions for further research are given followed by an overall conclusion for the study.

Recommendations

1. Review curricula and the number of assessments.
2. Create a more responsive, stimulating teaching and learning environment.
3. Create learning communities within courses and programmes.
4. Foster a developmental approach to improving generic skills.

Recommendation 1
Review curricula and the number of assessments

There are no simple answers to the issues that emerged from the data regarding students' perceptions of the number and timing of assessments, the number of topics to cover in a short time frame, and the difficulty of knowing what to focus on, all of which are inter-related. Individual lecturers can ensure that students are focusing on areas of importance by using frequent summaries and recaps. Angelo and Cross (1993) also recognise the importance of lecturers being aware of what their students are focusing on and recommend a paper-based reflective exercise such as the "Minute Paper" which can help lecturers to gauge this. This involves students writing the answers to two questions: *what was the most useful or meaningful thing you learned during this session* and *what question(s) remain uppermost in your mind as we end this session*?

Individual lecturers can review their own curricula and assessments to ensure they are realistic for the time frame, and make changes where necessary to ensure the focus is on learning. The danger of one lecturer making changes in isolation, however, is that students may use any time not perceived to be related to summative assessment to work on assessments in other courses. In reviewing curricula, a consistent approach is recommended at the programme level concerning what should be covered, what constitutes a feasible number of learning outcomes, and appropriate assessment for learning. Collaboration is regarded as a powerful tool for substantial organisational change (Kember, 2008) so one programme could be chosen for an action research project, undertaken with institutional sanction and support.

This project would be a major undertaking beginning with a review of first year courses. Lecturers who volunteer would need both the time and the motivation to get involved. They should understand the need for the review, and be fully committed to improving the teaching and learning environment, rather than improving their career prospects. Lecturers at the polytechnic are already under considerable pressure with high teaching loads and the need to produce research outputs, so timetabled meetings would assist coordination. The action research could prove worthwhile where lecturers recognise improvements in teaching and learning, and research outputs could evolve from the project. Due to the complexity of the project it would need to undertaken over several years with regular evaluation of progress and feedback from students, as it is their perceptions that strongly influence their learning. It could lay the foundations for changes in higher level courses or for projects in other programmes at the polytechnic.

In their analysis of the literature, Prebble et al. (2005) found support for the proposition that "the academic work group is generally an effective setting for developing the complex knowledge, attitudes and skills involved in teaching" (p.33). There are a number of precedents for this approach including a university-wide initiative to promote student-centred forms of teaching and learning at The University of Hong Kong (Kember, 2008). A three year collaborative project was undertaken at Monash University, involving regular meetings of teaching teams, which according to Macdonald (2001) led to significant improvements in teaching practices, greater student engagement, and conceptual understanding of subjects. A large-scale, five year project, Teaching and Learning Research Programme (TLRP), commissioned by the British Economic and Social Research Council (Entwistle, 2004) also provides a possible model for this collaborative initiative.

The emphasis should shift from students completing assessments to creating conditions for a deep approach to learning. A first step could involve the project team identifying what constitutes a deep approach to learning in specific courses rather than dealing in generalisations, following the procedures in the TLRP (Entwistle, 2004). This will in turn provide a sound basis for evaluating the

learning outcomes and assessment regime to supports these. Biggs' (2003) constructive alignment model provides a useful framework for this exercise.

A reduction in learning outcomes and course content would ensure a more manageable pace giving lecturers the freedom to experiment with more active learning strategies conducive to a deep approach, such as project based learning. Lecturers could also experiment with more innovative approaches to assessment with the emphasis on learning, allowing for more feedback, and influencing metacognitive development. This could include more formative assessment, or the approach known as The Patchwork Text (Winter, 2003) previously discussed in Chapter Two. Lecturers need to be supported to take risks with innovative methods, which will have implications for the way teaching is evaluated.

The evidence in the research by Lizzio et al. (2002) indicated that students were developing higher levels of generic and transferable skills in courses that were 'less packed' and which presumably, therefore, allowed "greater opportunities and time for the use of analytic, problem-solving, and interactive learning processes that facilitated the synthesis, integration and application of knowledge" (p.36). Therefore, changes here could contribute to a more stimulating and responsive teaching and learning environment.

Recommendation 2
Create a more responsive, stimulating teaching and learning environment

Previous research suggests a responsive environment includes clarity of explanations, and appropriate level (Entwistle, 2004). The level of teaching should match the students' prior knowledge and experience, and lecturers should avoid making assumptions. Lecturers, particularly in compulsory subjects, can assist students to see the relevance of what they are studying by providing authentic tasks that have personal meaning and future use. Assessments should be rigorously moderated and requirements clearly explained so that students can avoid procrastination. It is essential that weightings of assessments reflect the

importance of the learning outcomes, and clear marking schemes are provided, so students know where to concentrate their efforts.

Individual lecturers could take greater responsibility for motivating students by providing stimulating, responsive, student-centred teaching rather than the traditional didactic approach, which according to Brophy (2006) does not lead to quality learning but rather "student boredom, reliance on rote learning methods, and acquisition of disconnected items of knowledge that are mostly soon forgotten or retained only in inert forms" (p.530). To cater for the diverse range of students in their courses lecturers may require professional development which is best provided in the context of a course rather than one-off generalised workshops, which tend to have limited impact on changing practice (MacDonald, 2001; Prebble et al., 2005).

Lecturer-student relationships will improve where lecturers demonstrate excitement and enthusiasm for their subject, empathy, and understanding of student difficulties. All lecturers need to be available both in and outside class, welcoming and approachable, and perceived as fair and unbiased in their dealings with students. Lecturers need to aware of the commitments their students have on top of study, minimise any barriers to learning and be as flexible as possible.

This recommendation has support from Kember and Leung (2006) who found in their study that a more stimulating teaching and learning environment can spur students to work hard and adopt a deep approach to learning without perceiving their workload to be heavy. Since it is the total array of demands in a programme of study that has the most impact on perceived workload and approach to learning, it is recommended that creating a more stimulating and responsive teaching and learning environment is considered as part of the collaborative research project. Part of the project could involve action learning, where lecturers would meet together with each individual presenting a real issue or problem from their course, and the whole group working on the problem to suggest a course of action (Zuber-Skerritt, 1993).

Recommendation 3
Create learning communities within programmes

Lecturers in the collaborative project teams need to create a nurturing learning community to foster lecturer-student and student-student relationships, to address many of the issues that emerged from the data. A mentoring system could be introduced as one element of this learning community. Lecturers could be assigned a group of students that they meet with regularly to discuss progress, to provide advocacy, and give students a forum to express their problems and concerns confidentially without fear of penalty. Mentors need a consistent approach so discussion will be required to decide what form this will take and the system could be regularly evaluated to ensure ongoing improvements. Awareness of services and support personnel available will be necessary so students can be referred in a timely manner, and mentors may be required to accompany them to make initial introductions. The time required for lecturers involved in mentoring should be taken into account by administrators.

The project group needs to address pre-enrolment procedures to ensure students are aware of the total workload in a programme of study. Pre-enrolment interviews could discuss the other commitments students have and how realistic their proposed course load is. Orientation processes into the institution could also be considered so students experience a welcoming environment and are assisted to navigate their way through the first few weeks. This should engage with students as individuals not just overload them with information, and there is ample precedent for this according to Yorke (2006).

A number of other support mechanisms could be explored in the project groups such as a peer tutoring system for subjects of high risk, or tutorial study groups. The literature provides advice on setting up these systems (Kozel, 2002; Zeegers & Martin, 2001) but to be successful it is essential that those doing the tutoring are trained, or study groups are assisted to get established and work effectively.

Recommendation 4
Foster a developmental approach to improving generic skills

Individual lecturers could teach generic skills in their subjects; teaching what students have to learn (content), how students should approach this (study skills) and why they need to learn this (motivation). Metacognitive skills could also be explicitly addressed to enhance students' awareness of their own cognitive processes as suggested by Entwistle (2003). However, this requires time which would be difficult to find unless the other issues such as overloaded curricula are addressed simultaneously. It could also be counter-productive if the message is not consistent and reinforced in all courses.

Therefore, fostering a developmental approach to improving generic skills should be part of the collaborative project. There is precedent for this in a three year project undertaken at Curtin University, which focused on integrating the development of generic skills into the curriculum to complement disciplinary knowledge (De La Harpe, Radloff & Wyber, 2000). The first step is acceptance by lecturers that students do not necessarily enter higher education with the required generic skills. They need to be convinced that students can be supported to make the transition and become independent learners, with all lecturers working together to achieve a consistent approach. Consensus would need to be achieved regarding what skills to teach and when, and ensure consistency of requirements such as how to write a report.

Retrospective critique

In hindsight, there are a number of changes I would make to the way the research was conducted. I would revise Question One in Part A of the questionnaire. Rather than requiring a yes/no answer I would ask all respondents to estimate the amount of time in a semester that they felt negative stress or overly pressured due to their workload, rather than incorporating this into the interview questions as was the case in this study. After completing the interviews I realized

that all students tend to have negative perceptions of the workload at times so I would also request all respondents to complete Question 2. Some may have effective coping strategies so this needs to be explored also.

I would explicitly explore what the terms *heavy* and *unmanageable* mean to respondents along two dimensions. Firstly what students had in mind when answering the questionnaire, such as having a lot to do in a short time, or finding the cognitive load difficult or challenging. The terms might also imply that students did not have the requisite skills to complete the tasks, or the coping skills to manage the workload, all of which were evident in the interview data. I would also collect data on the amount of time in a semester students felt under excessive pressure.

A further problem relates to the need for respondents to the questionnaire to change from thinking about a programme for Part A to thinking about a specific course for Part B. The instructions need to be far clearer and easier to follow. Given that students adopt a range of approaches even in one course, the instructions for Part B could be changed to match Part A and ask students to consider their whole programme in responding to the statements.
In addition, I would change my interview technique to probe more deeply into students' statements and ask for concrete examples, rather than accepting whatever comments were made. This should reduce interviewer bias in interpreting statements and provide deeper insight into the way interviewees are thinking. For example, it would have been useful to probe into why some courses held no interest for some students.

Further research

The next step should be to compare the findings in this study with lecturers' views of student perceptions of workload and the approaches to learning students adopt. This research could involve interviewing lecturers on a number of issues such as assessment and curricula, attitudes to teaching generic skills, and the amount of support they believe students need. Lecturers need to believe that a problem exists if they are to be committed to making improvements and

understand why they are necessary, so canvassing their views would also provide useful insight into how supportive of any new initiatives lecturers are likely to be. This study would also need to include lecturers' perceptions of their own workload in relation to the time needed to plan and implement changes in the teaching-learning environment.

A study of the workload perceptions of part-time or on-line students could also provide useful insight into the particular problems these groups face with the aim of the workload perceptions of these groups. One group that is of concern to the Ministry of Education, and an issue under the new funding regime, is at risk students in the younger age group. This group was not specifically captured by this study so it would be a useful area to research to identify any unique issues.

Publication of the setting up and progress of the collaborative, action research project recommended could provide some useful guidelines for other similar institutions engaging in this task. It would also be interesting to compare the findings of this case study with similar studies carried out in other New Zealand institutions.

Conclusion

The focus of this research was on perceived workload and any effect on students' approach to learning, with the overarching aim of contributing to changes in the teaching-learning environment at the regional polytechnic. The study concentrated on workload as this was within the power of the institution to influence in making improvements to the quality of learning. The information gathered provided insights into the issues that students felt influenced their perceived workload and affected their approach to learning, where a deep approach was regarded as a proxy for quality learning. The evidence clearly indicated that workload was perceived as a problem by the majority of respondents in the study. The data provided insight into the main influences on perceived workload including student characteristics such as prior knowledge and skill level, commitments outside of study, and the goals adopted. Perceptions were also influenced by institutional factors such as too many assessments for the time

frame, overloaded courses, clarity of learning materials, and lecturer support. It was also revealed that motivation played a pivotal role in both perceived workload and approach to learning.

Students perceived some lecturers as lacking awareness of the problems they faced. They complained that some lecturers needed to be more empathetic, supportive, and acknowledge the complex reality of students' lives. It became apparent that some lecturers may need to question their assumptions such as viewing success/failure as being related to preparedness for study at degree level. Improvements in these areas could probably positively influence students' perception of their workload. However, my findings suggest that changes made by individual lecturers working in isolation are likely to have a limited impact on perceived workload and encouraging a deep approach to learning due to the interrelationships between the various aspects.

To enact major improvements in the teaching-learning environment at this institution it became apparent that a range of factors needed to be considered. It was recommended that the institution supported lecturers to collaborate in creating a more stimulating, responsive environment, including a review of curricula, cooperating to develop students' generic skills, and fostering learning communities.

This study makes an original contribution to scholarship in a number of ways. The revised concept map presented in Chapter Five illustrates the complexity of the workload issue and its relationship to leaning. It provides evidence for institutions seeking to address this issue that collaboration probably has a greater chance of success than lecturers making changes in isolation. The purpose designed student workload questionnaire provided a useful tool for gauging the major issues influencing perceived workload for the case study undertaken in this regional polytechnic. Although the results and conclusions are not generalisable to other institutions the workload questionnaire and methodology of this study could be employed by other institutions seeking to investigate this issue. The questionnaire seeks to address the limitations concerning data gathering methods used in previous studies where workload was usually only one of several factors studied in the teaching-learning environment. The results also

provided confirmation of previous international studies that considered influences on student workload and the effect on quality learning, showing that they can be generalized to a New Zealand context. It also appears that the relationship between students' perceptions of workload and their self-reported approaches to learning has not previously been investigated, particularly in a New Zealand context.

In 1979 Gough and Monday summarised studies investigating student workload in New Zealand institutions and concluded that "most encouraging of all is simply the fact that concern is felt and the questions are being asked" (1979, p.60). This concern still exists 30 years on and little appears to have changed. Curricula continue to increase and student diversity has become an even greater issue, increasing the pressure on students and lecturers.

The Ministry of Education (2007) expects institutions to have the necessary systems and structures in place to ensure that individuals are motivated to learn, engaged, and have the skills and information needed to be effective students. Gathering and analysing information regarding students' workload perceptions and their approaches to learning in this context was a valuable first step to assist in planning changes to the teaching-learning environment at this regional polytechnic. However, there are no quick fixes and the complexity of the task means it will be a difficult undertaking. All sectors of the institution will need to work together and be committed to achieving these goals so students can perceive their workload as manageable and have the time to adopt a deep approach to learning.

Appendix A
SUB-SCALES FOR THREE APPROACHES TO LEARNING

DEEP APPROACH

Seeking meaning
I usually set out to understand for myself the meaning of what we have to learn.
When I'm reading an article or book, I try to find out for myself exactly what the author means.
When I am reading I stop from time to time to reflect on what I am trying to learn from it.
Before tackling a problem or assignment, I first try to work out what lies behind it.

Relating ideas
I try to relate ideas I come across to those in other topics or other courses whenever possible.
When I'm working on a new topic, I try to see in my own mind how all the ideas fit together.
Ideas in course books or articles often set me off on long chains of thought of my own.
I like to play around with ideas of my own even if they don't get me very far.

Use of evidence
I look at the evidence carefully and try to reach my own conclusion about what I'm studying.
17. Often I find myself questioning things I hear in lectures or read in books.
When I read, I examine the details carefully to see how they fit in with what's being said.
It's important for me to be able to follow the argument, or to see the reason behind things.

STRATEGIC APPROACH

Organised studying
I manage to find conditions for studying which allow me to get on with my work easily.
I think I'm quite systematic and organised when it comes to revising for exams.
I'm good at following up some of the reading suggested by lecturers or tutors.
I usually plan out my week's work in advance, either on paper or in my head.

Time management
5. I organise my study time carefully to make the best use of it.
14. I'm pretty good at getting down to work whenever I need to.
I work steadily through the term or semester, rather than leave it all until the last minute.
32. I generally make good use of my time during the day.

Alertness to assessment demands
When working on an assignment, I'm keeping in mind how best to impress the marker.
I look carefully at tutors' comments on course work to see how to get higher marks next time.
I keep in mind who is going to mark an assignment and what they're likely to be looking for.
I keep an eye open for what lecturers seem to think is important and concentrate on that.

SURFACE APPROACH

Lack of purpose
Often I find myself wondering whether the work I am doing here is really worthwhile.
12. There's not much of the work here that I find interesting or relevant.
21. When I look back, I sometimes wonder why I ever decided to come here.
I'm not really interested in this course, but I have to take it for other reasons.

Unrelated memorising
I find I have to concentrate on just memorising a good deal of what I have to learn.
Much of what I'm studying makes little sense: it's like unrelated bits and pieces.
I'm not really sure what's important in lectures, so I try to get down all I can.
33. I often have trouble in making sense of the things I have to remember.

Syllabus-boundness
9. I tend to read very little beyond what is actually required to pass.
I concentrate on learning just those bits of information I have to know to pass.
I gear my studying closely to just what seems to be required for assignments and exams.
36. I like to be told precisely what to do in essays or other assignments.

Appendix B
QUESTIONNAIRE

Student experience of learning at a regional polytechnic

Name of programme of study: _____

Please **circle** the category that describes you:

Number of years spent studying in this programme:

1 2 3 4

Gender: M / F

Age group: 17-22 23 and over

PART A PERCEPTION OF WORKLOAD

Question 1

The workload I have experienced in my programme of study has always been manageable.

Workload *refers to* ***out of class*** *activities including study and assignments, where feelings of negative stress or pressure are experienced if you feel that the workload is heavy or unmanageable for you*

YES / NO

If you answered **YES** please GO TO **Part B**

If you answered **NO** please GO TO **Question 2**

Question 2

(a) In the **first** column please **tick** as many of the following that you feel apply to you as reasons for your perception of a heavy or unmanageable workload at times.

(b) In the **second** column choose only the **five** most important reasons why you perceive your workload to be heavy or unmanageable and **rank** these where **1** = most important and **5**= least important

Reasons	√	Rank
Over-assessment of courses		
Assessments all due around the same time		
Too many topics to cover in a short time frame		
Difficulty knowing what to focus on when studying		
Not knowing the reason why you are required to do a particular assessment		
Problem with time management		
Not being able to get help with study when needed		
Not knowing how to access help		
Not having the required skills for an assessment e.g. how to write an essay or do library searches		
Lecturers assuming that you have the required skills for an assessment and not specifically teaching these		
Lacking motivation		
Enrolled in wrong course due to poor advice or lack of advice		
Family commitments		
Socializing		
Health problems		
Part-time job		
If you have a part-time job please circle the number of hours in an average week you would work. 1-3 4-6 7-9 10-12 13-15 16 or more		

Please add anything else that affects your feelings about your workload that is not mentioned above.

Please go to Part B

PART B APPROACHES TO STUDYING

This part of the questionnaire asks you to indicate your relative agreement or disagreement with comments about studying made by other students. Please work through the comments, giving your **immediate** response.

In deciding your answers, think in terms of **one particular course (e.g. Biochemistry, Marketing Principles, etc).**

It is also very important that you answer **all** the questions.

***5** means agree **4** = agree somewhat **2** = disagree somewhat **1** = disagree Try not to use **3** = unsure, unless you really have to, or if it cannot apply to you or your course.*						
1	I manage to find conditions for studying which allow me to get on with my work easily.	5	4	3	2	1
2	When working on an assignment, I'm keeping in mind how best to impress the marker.	5	4	3	2	1
3	Often I find myself wondering whether the work I am doing here is really worthwhile.	5	4	3	2	1
4	I usually set out to understand for myself the meaning of what we have to learn.	5	4	3	2	1
5	I organise my study time carefully to make the best use of it.	5	4	3	2	1
6	I find I have to concentrate on just memorising a lot of what I have to learn.	5	4	3	2	1
7	I think carefully and try to reach my own conclusion about what I'm studying.	5	4	3	2	1
8	I try to relate ideas I come across to those in other topics or other courses whenever possible.	5	4	3	2	1
9	I tend to read very little beyond what is actually required to pass.	5	4	3	2	1
10	I think I'm quite systematic and organised when it comes to revising for exams.	5	4	3	2	1
11	I look carefully at tutors' comments on course work to see how to get higher marks next time.	5	4	3	2	1
12	There's not much of the work here that I find interesting or relevant.	5	4	3	2	1
13	When I read an article or book, I try to find out for myself exactly what the author means.	5	4	3	2	1
14	I'm pretty good at getting down to work whenever I need to.	5	4	3	2	1
15	Much of what I'm studying makes little sense: it's like unrelated bits and pieces.	5	4	3	2	1
16	When I'm working on a new topic, I try to see in my own mind how all the ideas fit together.	5	4	3	2	1

17	Often I find myself questioning things I hear in lectures or read in books.	5	4	3	2	1
18	I concentrate on learning just those bits of information I have to know to pass.	5	4	3	2	1
19	I'm good at following up some of the reading suggested by tutors.	5	4	3	2	1
20	I keep in mind who is going to mark an assignment and what they're likely to be looking for.	5	4	3	2	1
21	When I look back, I sometimes wonder why I ever decided to come here.	5	4	3	2	1
22	When I am reading, I stop from time to time to reflect on what I am trying to learn from it.	5	4	3	2	1
23	I work steadily through the semester, rather than leave it all until the last minute.	5	4	3	2	1
24	I'm not really sure what's important in lectures so I try to get down all I can.	5	4	3	2	1
25	Ideas in course books or articles often set me off on long chains of thought of my own.	5	4	3	2	1
26	When I read, I examine the details carefully to see how they fit in with what's being said.	5	4	3	2	1
27	I gear my studying closely to just what seems to be required for assignments and exams.	5	4	3	2	1
28	I usually plan out my week's work in advance, either on paper or in my head.	5	4	3	2	1
29	I keep an eye open for what tutors seem to think is important and concentrate on that.	5	4	3	2	1
30	I'm not really interested in this course, but I have to take it for other reasons.	5	4	3	2	1
31	Before tackling a problem or assignment, I first try to work out what lies behind it.	5	4	3	2	1
32	I generally make good use of my time during the day.	5	4	3	2	1
33	I often have trouble in making sense of the things I have to remember.	5	4	3	2	1
34	I like to play around with ideas of my own even if they don't get me very far.	5	4	3	2	1
35	It's important for me to be able to follow the argument, or to see the reason behind things.	5	4	3	2	1
36	I like to be told precisely what to do in essays or other assignments.	5	4	3	2	1

Thank you very much for spending time completing this questionnaire; it is much appreciated.

Please read Part C

PART C INVITATION TO BE INTERVIEWED

COMPLETE THIS SECTION ONLY IF YOU ARE WILLING TO BE INTERVIEWED

I am looking for volunteers to take part in an interview. This will take about 45 minutes of your time and would be arranged at a time and place to suit you.

If you would be willing to be interviewed to talk further about your response to this questionnaire please give the name you are known by and details of the preferred way you wish to be contacted (email address –either at the Institute or at home; mobile; home phone).

Remember you are under no obligation to go through with the interview when contacted. You can change your mind at any time. Your responses will be confidential.

Name:

Contact details:

Appendix C
INFORMATION SHEET

Student experience of learning at a regional polytechnic

Introduction

My name is Lara Giles and I am studying for a Doctor of Education degree at Massey University. It is in my role as a student that I would like to explore polytechnic students' experience of learning.

Purpose of the project

To find out how student's are experiencing their workload and learning at the polytechnic in order to provide up to date information that can be used to improve practice.

Participants

I am inviting all full-time, students studying at levels 5 to 7 to volunteer to participate in the proposed study. If you agree to take part you will be asked to complete a questionnaire about your approach to learning and studying and how you view the workload in your studies. I will also be asking for volunteers to take part in a follow-up interview to talk about the issues in the questionnaire in more depth.

Project Procedures

I will make every possible attempt to ensure that research data remains confidential to myself and my research supervisor. No individuals or the polytechnic will be identified in any published material or to any other person. All data will be stored in a locked filing cabinet to which only I have access.

Questionnaire

The questionnaire will remain anonymous unless you volunteer to take part in an interview, then you will be guaranteed confidentiality.

Interviews

Files containing tapes will be coded, locked, and stored separately from lists which identify participants and the transcriber will be required to sign a confidentiality agreement.

Recorded material will be safely destroyed within five years of the study's completion for the protection of the research participants.

You will be provided with a transcript of the interview to check and delete any information you have changed your mind about providing.

Your involvement

The questionnaire should take around 15 minutes of your time. If you volunteer for a follow-up interview, you will be contacted after the questionnaire data has been analyzed and asked if you still wish to take part. You can withdraw consent at this time. If you decide to go ahead with the interview, a time and place will be arranged to suit you. The interview should take no more than 45 minutes and will be recorded with your permission.

Your Rights

You are under no obligation to accept this invitation. If you decide to take part, completion and return of the questionnaire implies consent.

If you decide to participate in the interview you have the right to:

- decline to answer any particular question;
- withdraw from the study (at any time before data analysis commences);
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used;
- be given access to a summary of the project findings when it is concluded;
- ask for the audio tape to be turned off at any time during the interview.

Project Contacts
Please feel free to contact me and/or my supervisor if you have any questions about the project.

Researcher: Lara Giles
Contact details: Eastern Institute of Technology
Private Bag 1201, Taradale
Telephone 974 8000 Extn 5040

Research Supervisor: Dr. Linda Leach
Contact details: Massey University
Private Bag 11222, Palmerston North
Telephone 356 9099 Extn 8831

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher is responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher, please contact Professor Sylvia Rumball, Assistant to the Vice-Chancellor (Ethics & Equity), telephone 06 350 5249, e-mail humanethicsouthb@massey.ac.nz.

Appendix D
TRANSCRIBER'S CONFIDENTIALITY AGREEMENT

I ..... (Full Name - printed) agree to transcribe the tapes provided to me.

I agree to keep confidential all the information provided to me.

I will not make any copies of the transcripts or keep any record of them, other than those required for the project.

Signature: ..... **Date:** .....

Appendix E
INTERVIEW QUESTIONS

Comment on only those questions you wish to or that you feel are relevant to your situation.

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ASSESSMENT

Tell me about the problem of **assessments all due around the same time**:

- How many assignments would you normally have at one time?
- Describe your feelings when you get assignments all due at same time.
- Describe any effects this has on your learning.
- Do you think that courses are over-assessed?
- How do you organize your study when you have several assignments all due around the same date? For example, do weightings play any part in prioritizing workload?
- What would you do differently if due dates were more spread?
- Describe any study you do apart from working on assessments.
- Describe the effects of not knowing what to focus on. How do you decide what to focus on?
- Tell me about the effects of **too many topics covered in a short time frame**. Can you give some examples of courses where this happens?

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TIME MANAGEMENT

- Tell me about your **time management** skills.
- Comment on what you are told at the start of your programme about workload for the semester. What do you do with this information?
- How much time do you have available for study?
- Tell me about how you use your time on campus and at home.
- Tell me about any instances of procrastination and why you procrastinated.
- How organized would you describe yourself in terms of study area, notes, planners etc?
- Tell me about the amount of socializing you do and any effect this has on study. Given a choice between socializing or completing a due assignment which would you do and why?
- How do you spend your time when there is little work required for assessments?

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- If you have a **part-time job** tell me about this, when you work, and how supportive the workplace is of your study.
- How this may affect your study and ability to manage your time?
- Describe any effects working has on completion of assignments?

If you have **family commitments** tell me about:

- The problems associated with this.
- Describe how supportive your family is of your study.
- How do you deal with demands and interruptions from family when you are studying?

++

The following questions are asking you to think about your **motivation**:

- If lacking motivation is a problem for you describe why you think this.
- What is your reason for doing your course? What do hope to achieve from your study?
- Would you describe studying as your number one priority? Explain
- Tell me about any compulsory subjects that you wouldn't do given a choice. Describe any approaches to study you adopt in these courses compared to subjects you chose or are interested in.

++

Study skills

- Tell me about any problems you have experienced with skills such as research and report writing. Describe the effects of these problems and how this made you feel.
- Can you give any examples of where you were given an assignment and you were not sure how to tackle it or not sure what was actually required? How did you handle it?
- Tell me about any help you received to help you with these skills.

++

Support

- Describe how supportive you have found your lecturers.
- Tell me about any problems you may have experienced accessing help. How did this make you feel?
- Tell me about any support you feel you gained from working with other students.
- Tell me about any support you gained from the Learning Centre.

++

General

- Can you estimate how much of the time in a semester you feel stressed or pressured by the workload?
- Do you think you have changed the way you perceived the workload since you started your study?
- Tell me about any thoughts you have had about withdrawing from your course or dropping a paper.
- What would you like to see changed in terms of workload?
- Is there anything else you would like to add about workload issues?

Appendix F
PARTICIPANT CONSENT FORM

This consent form will be held for a period of five (5) years

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I **agree / do not agree** to the interview being audio taped.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: ..... **Date:** .....

Full Name (printed) .....

AUTHORITY FOR THE RELEASE OF TAPE TRANSCRIPTS

This form will be held for a period of five (5) years

I confirm that I have had the opportunity to read and amend the transcript of the interview conducted with me.

I agree that the edited transcript and extracts from this may be used by the researcher, *Lara Giles,* in reports and publications arising from the research.

Signature: ..... **Date:** .....

Full Name (printed)

.....

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