

UNIVERSITY OF SOUTHERN QUEENSLAND

***GUIDING PRINCIPLES FOR THE DEVELOPMENT OF A
CONCEPTUAL FRAMEWORK FOR POSTGRADUATE DISTANCE
EDUCATION IN PROJECT MANAGEMENT***

A Dissertation submitted by

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Abstract

This study examines an existing postgraduate distance education program in project management in the setting of a regional university (University of Southern Queensland), and explores ways in which the program can be reconceptualised so that it aligns with validated pedagogical principles. By means of a comprehensive and in-depth analysis, the case study approach holistically explores the organisational context within which the program exists, the pedagogical frameworks by which the program is offered, and the educational setting within which students undertake their learning tasks and activities. Activity Theory has been used to undertake the study which has been guided by the question:

What are the guiding principles for the development of a conceptual framework for postgraduate distance education in project management?

The study progressively explores the contextual issues that influence postgraduate distance education for project management, the characteristics and circumstances of the learners, and the pedagogical frameworks, principles and practices guiding postgraduate distance education for project management in the case study setting. Data have been collected consistent with the principles of grounded theory through document analysis, semi-structured interviews, a web-based survey and focus group sessions. Data analysis has taken place iteratively with the findings from each stage guiding the collection and analysis of data in the subsequent stages. From the overall findings of the data analysis, key principles have been identified to guide future development of a conceptual framework for postgraduate project management distance education in the University.

The findings from this study are embodied in a matrix of 9 key principles and 16 sub-principles, and recommendations flowing from those principles are summarised below:

- Distance education teaching and learning must be acknowledged as a *core function* of the University consistent with its vision, mission and values;

- *Constructive alignment* must be achieved across all administrative and academic functions of the University involved in the delivery of distance education;
- *Postgraduate teaching and learning* at a distance must be recognised as a discrete component of teaching and learning with specific characteristics and resource requirements;
- Administrative and academic policies, regulations and practices must incorporate genuine *openness* and *flexibility* as essential attributes of postgraduate distance education;
- Academic staff must be adequately *trained and resourced* to teach postgraduate programs at a distance;
- Administrative, teaching and learning practices should evolve from a *student-centred learning community*, driven by an understanding of the postgraduate distance education students in the project management programs, and their needs and objectives as lifelong learners;
- Relevant *graduate attributes* should be defined for postgraduate students in the project management programs, and learning tasks, activities and assessment should be structured towards development of those attributes;
- Postgraduate distance education students should engage in *interactive* and *collaborative* learning tasks and activities in order to attain high-level intellectual skills and abilities that are required for project management practice;
- Postgraduate distance education students should engage in *situated learning*, where tasks and activities take place in authentic project management contexts that respect students' individual learning settings and circumstances;
- Postgraduate programs in distance education should be structured with regard to curriculum and assessment to deliver *learning outcomes* that are endorsed by all stakeholders in the project management programs, both internal and external to the University.

Certification of dissertation

I certify that the ideas, experimental work, results, analyses, software and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

Signature of Candidate

Date

Endorsement

Signature of Principal Supervisor/s

Date

Signature of Associate Supervisor

Date

Foreword

After thirty-years in industry as an architect and project manager, the author commenced a temporary teaching position at the University of Southern Queensland and this subsequently evolved into a new career with responsibility for a Master's-level project management program. A desire to provide the optimal student learning experience revealed the complexity facing a new academic in providing postgraduate distance education students with learning outcomes that match students' expectations and those of the broader professional community. The author inherited a teaching and learning model which at the time was perceived to represent 'best practice' for postgraduate distance education, but was also aware of students' dissatisfaction with their experiences and learning outcomes. Many students were unable to complete their studies because of the circumstances under which they studied and the constraints of the learning environment, but the view of many stakeholders was that this reflected real life and postgraduate study was a training ground for practice in an unforgiving workplace.

The author subsequently adopted a more flexible and student-centred model and saw the students as co-learners. Personal observation of the conflicts that students encountered throughout their studies prompted a desire to find better ways of assisting students to achieve their personal goals and learning objectives, and to enjoy their learning experience along the way.

As there is no recognised theoretical framework by which postgraduate project management education can be offered at a distance, this study addresses that gap. Over the course of this study from 2002 to 2008, internal and external forces brought about considerable changes to the organisational, political and financial landscapes within the University, and a major objective of this study has been to contribute to the debate on how we, as a university community, can provide a more effective and rewarding learning experience for postgraduate distance education students in project management.

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1 Introduction

1.1 Overview of the study

This study explores an existing postgraduate distance education program in project management within a regional university in order to identify key principles to guide reconceptualisation of the program. Through document analysis, interviews, survey and focus groups, a case study approach is used to explore and gain an understanding of the experiences of students, academic staff and support staff who have participated in, or contributed to, the project management program. The outcome of the study is the development of key principles to guide the program through an ongoing process of change, which is a recurring theme for the project management program.

The study undertakes an holistic and in-depth examination of the environment surrounding the program, the stakeholders, the practices and the learning outcomes. This approach allows the study to explore all dimensions of the case study setting, to understand the issues that influence the learning outcomes, and to define guidelines for the development of a framework within which to reconceptualise the program. Through an iterative process of data collection and analysis, the respective stages of the study have progressively revealed the key issues that influence the program and the learning outcomes, generated suggestions from multiple perspectives, derived guiding principles for reframing the program, and examined the implications for the University arising from implementation of those principles.

1.2 Impetus for the study

The setting is the University of Southern Queensland (USQ) which is a medium-sized regional university based in south-east Queensland in Australia, and the key drivers for the study were both personal and contextual. They included an awareness of project management students' dissatisfaction with their learning experiences and their learning outcomes in the program, as well as the consequences of rapid changes in the tertiary sector that were impacting on the project management program. The

Australian higher education sector experienced considerable changes in the post-Dawkins era in the 1980s, and issues of particular relevance to the USQ included:

- ‘the growing legitimacy of flexible pathways for university entry;
- the expansion of teaching strategies available particularly through flexible delivery initiatives; and
- the shrinking financial support from government and increasing trends towards ‘user pays’’ (Postle, Sturman et al., 2003, p. 2).

Government initiatives to increase access and participation resulted in a far more diverse student profile, and in order to provide equitable access to learning opportunities, distance education was adopted on a much broader scale across the tertiary sector than previously considered. Reflecting moves towards open access and greater flexibility in this period, the USQ postgraduate project management program moved from an on-campus mode of delivery to a print-based distance education mode in the late 1980s to provide greater flexibility for students who were primarily Defence-based and subject to constant change in their postings. However, with innovative educational and administrative change come challenges, and USQ was not immune to those challenges. The program experienced considerable growth, but students reported conflicts arising from the personal and professional circumstances under which they were undertaking their studies and many of these conflicts prevented them from completing the program.

Although USQ has had a history of innovation to address the needs of a diverse student body through changes in teaching and learning practices, no clear pedagogical framework had emerged to guide teaching and learning in open and distance education, especially for postgraduate coursework programs in the area of professional education such as project management (Todhunter, 2003a, 2003b). Nor had there emerged a clear picture of the relationship between administrative structures and academic practices, which is essential for the development of a coordinated approach for teaching and learning as face-to-face and distance education models have tended to converge (Ó Súilleabháin, 2004). Innovation at USQ has tended to take place at faculty and individual levels, and the adoption of

models for open and flexible delivery had been ‘more a change of degree than a change in kind’ (Postle & Ellerton, 1999, p. 6).

1.3 The project management program

From its origins as a small research-based Master’s program and subsequently as a coursework specialisation in the Master of Business Administration program, the project management program has grown to become the fourth-largest postgraduate program in the University, and is within the 20 largest programs overall of approximately 100 programs offered by the University (Baker, 2007b). It is offered in online mode, in print-based distance education mode supported by online facilities, and in on-campus mode which is in effect ‘blended delivery’ supported by intensive on-campus workshops (Bonk & Kim, 2004; Bonk, Olson, Wisher, & Orvis, 2002). With the rapid growth in the enrolments in individual subjects, there is an urgent need to identify issues that concern the wide range of stakeholders involved in the program so that it can be reconceptualised to better meet the changing needs of the students.

There are two major professional bodies that represent career project managers in Australia, and each has its own certification program to recognise the level of professional status of its members. Unlike most recognised professions such as medicine, law, engineering and architecture, university qualifications are not a pre-requisite for recognition and certification by professional project management bodies. The Australian Institute of Project Management uses competency-based processes for evaluation as part of its professional certification program (Australian Institute of Project Management, 1996), whereas the Project Management Institute (PMI) (Project Management Institute, 2003) has adopted a knowledge-based multiple-choice questionnaire as the main basis of evaluation for its certification process. University-based project management education faces conflicts arising from learning models that are different to the processes for ‘professional’ certification in either organisation. Most research studies into the identification and development of competent project managers (Crawford, 2002a; Crawford & Gaynor, 1999; Project

Management Institute, 2002) are also based around the traditional view of 'competencies' rather than the attributes associated with graduates of tertiary education (Bowden, Hart, King, Trigwell, & Watts, 2007; Crebert, 2002; Oliver, Herrington, & McLoughlin, 2000). This has created a situation where the learning outcomes of vocationally- and professionally-oriented postgraduate programs require re-evaluation in terms of how to develop professional expertise (Cheetham & Chivers, 2000; Taylor, 1994).

The project management curriculum was initially written around a framework defined by the Australian Department of Defence to suit the needs of their project management staff. At the time of the commencement of this study in 2002, the project management program was a specialisation in the Master of Business Administration program, but not yet a program in its own right. The MBA program had recently been adapted to be offered in online mode and the project management subjects were available to be studied as part of the online initiative.

Student course enrolments in the project management program have increased from around 50 to approximately 400 in 2008 in the six-year period covering the duration of this study. From a situation where academic staff in the program were once able to maintain personal involvement in all aspects of the student experience, the growth in the size of the program has dictated that larger numbers of the learning community are involved in the development of materials, course coordination, design of assessment, facilitation of face-to-face components of blended delivery, marking and tutoring.

The student profile has changed substantially since the early years of the program in the 1990s – for example, it has changed from one of predominantly male students engaged in technically-focused capital projects to one with greater representation by female students who now make up a third of all enrolments. Personal observations of the author have indicated that a greater range of disciplines and nationalities are represented in the student cohorts (Thompson, 1998) and the needs of the students have changed accordingly. The project management program is offered in three modes – external, online and more recently on-campus – with over 90% of students

enrolled in external or online modes with no requirement to attend any face-to-face components of the program. This raises important questions in relation to the effectiveness of distance education for vocationally-oriented postgraduate programs for professions such as project management and is one of the drivers of this study.

Flexibility has emerged as a strong theme as the focus has changed from one of teacher-centred delivery to one of student-centred learning (Purnell, Cuskelly, & Danaher, 1996; Taylor, 2001b), and distance education is increasingly capable of providing the required flexibility to meet postgraduate project management students' learning needs. It is rapidly evolving as technology provides opportunities for improved access, communication and quality of content (Garrison, 1997), as evidenced in the generational models defined by Taylor (2001b). However, there is a vital need to 'develop a more integrated, coherent, and sophisticated program of research on distance learning that is based on theory' (Phipps & Merisotis, 1999, p. 27) and this dissertation will assist in addressing that need.

Previous studies suggest that the practical requirements of vocationally-oriented disciplines such as engineering, surveying, construction, architecture and project management (Cheetham & Chivers, 2000; Gareis & Huemann, 2000; Jaafari, 1998; Wideman, 2001) are difficult to meet using distance education modes of learning (Leban, 1999; Wirth & Amos, 1996). However, there is limited evidence to confirm which aspects of professional practice can be successfully learned in distance education mode. As USQ is internationally recognised as a 'dual mode' university and has declared its intention over the course of this study to be a 'transnational' university, and more recently an 'open and flexible' university offering global access to education through 'flexible learning' (Lovegrove, 2004c), it provides a rich setting as a case study to explore this problem (Palmquist, 2004; Stake, 2005; Stenhouse, 1990).

Observation of the issues identified above have revealed emerging conflicts in the learning environment and the need for a re-evaluation of the way project management education is offered by the University. What should a new project management program look like? What guidelines should be used to create a new

learning environment for project management? What exemplars exist to guide us? (Postle & Ellerton, 1999). Moran and Myringer believe that ‘piecemeal approaches to change are counter productive’ and that what is needed is ‘...a well-articulated set of institutional values about learning, with a range of teaching strategies and technologies, plus a set of organisational systems and networks to support them’(Moran & Myringer, 1999, p. 60).

1.4 The teaching and learning context

USQ has increasingly adopted the use of educational technology for reasons of pedagogy, flexibility, efficiency and cost effectiveness (Smith, 2005; Taylor & Swannell, 2001). However, the use of these technologies has not always been accompanied by ‘a commensurate understanding of knowledge of teaching and learning in contexts where technology is being used’ (Postle, Sturman et al., 2003, p. 1). Although USQ has become a recognised leader in the delivery of distance and online modes of flexible delivery (University of Southern Queensland, 2007o), this has resulted in teaching models that require individual academic staff members to facilitate classes of over 1,000 students in some postgraduate programs similar to the project management program.

At the time of the initial introduction of educational technologies to build on USQ’s distance education capabilities, Postle and Ellerton (1999) indicated that although flexible delivery had been accorded strategic status at USQ, the operationalisation of the concept was ‘hindered by the rigidity of organisational and administrative structures’ where academic staff were ‘allocated workloads on staffing formulas that are “functionally established”’ and which encouraged an ‘industrial model of service that is out of step with the ways of working with students implied in a flexible delivery environment’ (Postle & Ellerton, 1999, p. 5). In the faculty where the project management program is offered, rigidly-defined workload policies have tended to subordinated most other activities to the prosperity of the University as a business enterprise (Saunders, 2006), and this study will examine the organisational

context (Goodyear, 1999) to better understand the implications of organisational changes on academic and pedagogical issues.

Historically, academic staff have worked with an instructional designer from the Distance and e-Learning Centre (DeC) who provided pedagogical input into the design and development of the course materials and assessment. Design layouts, graphics, materials development, production and distribution are carried out by staff from the DeC (Sankey, 2005), and the role of the course leader is predominantly one of providing curriculum and subject matter expertise. As part of an ongoing organisational review, the role of DeC has changed and instructional designers have been relocated to a central Learning and Teaching Support Unit (LTSU) (University of Southern Queensland, 2007j) which has a broader responsibility for the quality of teaching and learning outcomes but without the 'hands-on' role previously assumed by the DeC. Responsibility for development of distance education course materials and resources now tends to rest with course leaders, and the implications of those changing roles within the organisation will be examined as part this study.

Learning resources provided to students by the University generally comprise printed study materials and a CD-ROM, but these are progressively being made available electronically through the University-wide Moodle learning management system (LMS). The nature of the learning resources and their relationship to learning outcomes (Moore, 1973, 1993) is examined in this study.

Through the LMS, students are able to communicate with academic staff and with other students and create informal virtual study groups. This capability provides opportunities for the development of teaching presence and social presence (Garrison, Cleveland-Innes, & Fung, 2004; Kehrwald, 2007a) and for the creation of communities of practice involving staff and students (Hung, Chee, Hedberg, & Seng, 2005; Lave & Wenger, 1991; Steeples, Jones, & Goodyear, 2002). Moore and others (Laurillard, 2002; Mayes & de Freitas, 2004; Moore, 1993) have demonstrated the importance of interaction in such learning environments, and this study will examine the changing nature of interaction in the case study setting.

Evaluation of learning outcomes from the project management program has changed over the years and each student now undertakes unique assessment based on projects that they choose from their workplaces. Although there are pedagogical benefits that flow from such situated learning and assessment (Barrie, McAllister, Mortenson, Worrall, & Dawson, 1996; Boyatzis, Cowen, & Kolb, 1995; Cheetham & Chivers, 1996; Dinham & Stritter, 1986), faculty administrative policies for evaluating assessment are standardised and restrictive, and may not align well with achieving desirable student learning outcomes. The utilisation of educational technologies has changed assessment practices from a slow and cumbersome print-based model to a virtual one using a web-based Electronic Assignment Submission Environment (EASE). Although such tools have provided high levels of flexibility in program management, administrative tasks related to handling of electronic assessment have now been transferred to academic staff, and the implications of such changes on teaching and learning practices are examined in the study.

1.5 Research problem and questions

Drivers for this study have included a transition from on-campus to distance education and online modes of delivery for the project management programs (Holmberg 1986; Moore 1986; Peters 1989), increasing utilisation of educational technologies for all aspects of academic programs, changes to the University setting over the life of the programs, conflicts between competency-based professional certification requirements for project management and knowledge-based learning in university programs (Australian Institute of Project Management, 1996; Jaafari, 1998), the rapid growth in enrolments in the program, and the conflict between the lack of an underlying philosophy regarding postgraduate studies and the nature of mature-aged students (Brookfield, 1995; Cheetham & Chivers, 2000). Personal experience on the part of the author and colleagues has suggested that these drivers have created conflicts with adverse impacts on both staff and students.

The research problem has emerged from examination of project management student learning experiences and teaching practices within USQ. From that problem, the

overarching research question has been defined and broken down to guide exploration of its underlying components. The study examines whether existing organisational values, philosophies and practices associated with this program are consistent with the aims, the objectives and the traditions of higher education.

The research problem arises from *'the need to define an effective learning environment for the provision of distance education for project managers at postgraduate level'*. To address this research problem, the overarching question is:

What are the guiding principles for the development of a conceptual framework for postgraduate distance education in project management?

To answer this question, it will be necessary to address the following enabling questions:

- *What are the contextual issues that influence postgraduate distance education for project management in the case study setting?*
- *What are the current pedagogical frameworks, principles and practices guiding postgraduate distance education for project management in the case study setting?*
- *How did the move to distance education frameworks influence the teaching practices and learning outcomes for postgraduate project management students?*
- *What are the characteristics and circumstances of the postgraduate project management distance education learners in the case study setting?*
- *What are the key issues identified by those working in the area of postgraduate distance education in project management and how might these be addressed?*
- *What are the emerging pedagogical frameworks in postgraduate distance education for project management in the case study setting?*

1.6 Focus of the study

At a fundamental level, this study reflects the views of Imershein (1976) who suggests that it is only when 'anomalous conditions' (Postle, Sturman et al., 2003, p.

16) are evident that members of an organisation will contemplate change and address those anomalies in order to find a shared view on the best way forward. From an organisational perspective, anomalies are problems that threaten the core functions of an organisation and which lead to reduced organisational performance (Simsek & Aytemiz, 1998), and possibly due to internal or external factors. When anomalies become evident, communities tend to re-evaluate practices that have become problematic and these may be due to events that also relate to other aspects of the cultural framework in which the activities are enacted (Imershein, 1976). Imershein maintains that organisational change can be thought of in much the same way as Kuhn (1970) explained progress in science, where he argued that allegiance to a paradigm in science implied adherence to particular ways of “doing” science, and that advances in science occur because scientists as a group perceive a need for a paradigm shift. Membership of organisations can be explained in much the same way, with organisational change requiring shifts in the “world views” of those involved in the change (Imershein, 1976; McDonald & Postle, 1999).

That change in world view could be brought about within USQ in a number of ways depending on the nature of the views that are held. Some managers see change in organisations as a linear rational process that can be controlled, while others see it as an intervention in an unstable dynamic system which can be initiated but not really controlled, and where equilibrium is re-established through a process of self-organisation (Burnes, 2005). The complex nature of the USQ organisation will require managers to ‘rethink the nature of hierarchy and control’ and learn how to use small changes to create large effects (Burnes, 2005, p. 82). The purpose of this study is to develop guiding principles that may assist in bringing about incremental policy change as part of continuous innovation.

The research problem requires a broad-ranging exploration of all of the potential issues that impact on the way in which the program is to be defined, developed, offered and managed in the future, and the breadth of the study suggests that a case study approach is ideal to reveal the multiple layers of the problem. To address the questions listed above, this study comprises:

- an holistic investigation of an existing postgraduate distance education program in project management using a case study approach;
- identification of major issues impacting on the program;
- definition of key principles to guide the reconceptualisation of the program; and
- interpretation of the likely consequences flowing from the application of the principles to the program.

To understand the broader contextual issues, the organisational setting will be explored at depth through examination of formal and informal documents and artefacts that cover many years of the University's history, including regulations, minutes of meetings, policy documents, staff announcements, and marketing materials at University, faculty and departmental levels. To gain a better understanding of the characteristics and circumstances of the learners, the study will examine the experiences of students who have participated in project management studies in distance education mode, and this will contribute to an understanding of the issues that have impacted on their learning experiences and on their ability to achieve their learning outcomes.

Changes in organisational policies and individual teaching and learning practices will be examined to understand the pedagogical frameworks in the case study setting, and to understand the 'espoused theories' as compared to actual underlying philosophies and 'theories in use' of the organisation and individuals (Argyris & Schon, 1974). Institutional policies reflecting the changing membership of the senior leadership committees will be examined to see how the roles of the academic and non-academic community members have evolved, using Activity Theory (AT) as a theoretical framework (Engeström, 2000).

The broad scope of this study is essential, because as Sommerlad (2003, p. 151) reveals, many research studies into higher education have employed 'simple frameworks, uninformed by educational research' and a 'continuing preoccupation with the individual learner' (Sommerlad, 2003, p. 153) rather than the broader learning environment. Perraton (2000) suggests that there is a shortage of well-founded research findings on many aspects of open and distance learning, while

‘findings about its context, critical for policy makers, are especially scarce’ (Perraton, 2000, p. 5). This study has a strong focus on context, and the findings are intended to provide guidelines to aid academic practice and administrative policy.

What one learns and how it is learned cannot be separated out from the social structure and pedagogical theory must ‘encompass all the complex factors that influence the process of teaching and learning’ (Sommerlad, 2003, p. 157), and this study focuses on those complex factors. A lack of pedagogic models and frameworks leaves researchers and practitioners ‘without strong anchorage for concepts drawn from diverse literatures’, and many studies ‘fail to recognise the socio-cultural and historical situatedness of learning’ (Sommerlad, 2003, p. 157). Selecting USQ as a case study setting for the research is consistent with Sommerlad’s conclusions that taking the learning setting as the object of analysis rather than the narrower educational transaction ‘brings into focus the many different factors that influence learning outcomes’ (Sommerlad, 2003, p. 160).

1.7 Significance of the study

The significance of the study lies in its comprehensive exploration of violations of expectations (Kuhn, 1970) of key stakeholders, and its capacity to bring about change and to enhance educational outcomes for postgraduate distance education students of project management. Imershein noted that ‘anomalous events mark the appearance of a crisis in a research tradition and set the conditions for a possible paradigm shift’ (Imershein, 1977, p. 34). This study will help to satisfy the need for any paradigm shift through the generation and application of key principles (Locke, 2002; Peikoff, 1991) that may assist in the development of a validated conceptual framework. It addresses two important educational objectives:

- the perceived educational disadvantage that postgraduate distance education students in project management experience compared to those in other modes of study, and

- the potential for extending the guidelines for the development of postgraduate distance education programs to other professional disciplines within the faculty, within the University and beyond.

The study is also significant in that it uses Activity Theory (AT) to ensure that the study is holistic and that it gains multiple perspectives on possible solutions. The findings of the study will influence the reconceptualisation of the project management program for its next stages of growth. It will form the basis of re-evaluation of curriculum content and structure, definition and development of learning resources, and establishment of policies for interaction and collaboration between staff and students. It will also influence the level of participation by workplace and industry representatives and identification of models of assessment that can contribute towards the development of a genuinely flexible learning experience to meet the needs of postgraduate students. The findings of the study may also contribute to the development of educational policy within USQ in relation to the delivery of vocationally-oriented postgraduate programs designed to develop higher-order learning outcomes (Cheetham & Chivers, 1996; Dinham & Stritter, 1986).

1.8 Delimitations and limitations of the study

The aims of the study have suggested a case study approach (Bassey, 1999; Palmquist, 2004; Stake, 2005; Stenhouse, 1990; Travers, 2001). Although the need for consideration of a broad range of issues and stakeholder roles has been identified, a delimitation of the study is that it is focused primarily on the postgraduate distance education program in project management. Some of the activities in this study have involved students and staff from other academic programs as it is not possible to filter out every aspect of the University setting that is not related to postgraduate distance education programs in project management. For survey data collection, the study has been limited to students who have studied project management over a nominated period in order to simplify their identification through University records.

Other postgraduate project management programs in Australia have not been explored to identify additional issues that might contribute to such a study. However, initial interviews have included academic staff involved in programs at other universities in order to ensure that issues outside of USQ have been captured to some extent.

Distance education programs provided by other universities within Australia have not been explored, nor have other postgraduate programs within the University setting. However, many of the academic staff involved in interviews and focus groups have experience and expertise in other programs and have brought that perspective to the study.

Not all of the students who have participated in the project management program over the defined period responded to the survey so the results reflect the views of only those who chose to respond.

As the study has concentrated on the postgraduate distance education program in project management, no claims can be made as to the degree to which the findings can be generalised to other disciplines, to other programs, to other modes of study, nor to other settings. As project management shares many characteristics with other disciplines such as business management, engineering, architecture, construction, information systems and construction (Turner & Huemann, 2000, 2001; Wirth, 1992; Wirth & Amos, 1996), it is reasonable to suggest that the findings of this study may have some application to those disciplines.

1.9 Structure of the dissertation

The structure of the dissertation is consistent with the recommendations of Perry (1998) for a doctoral thesis in a case study setting, with five major chapters, broken down into major sections and subsections.

Chapter 1 (this chapter) has provided an outline of the background of this study, how it came about, and how the research problem emerged. It has examined the key

drivers of the study and has identified the research problem, the research question, and the enabling questions that need to be addressed. It has justified the need for the study, and the approach to select a case study setting for collection of data using a grounded theory approach, in order to develop the key principles which represent the major aim of this study.

Chapter 2 provides a review of the extant literature and provides a summary of earlier theoretical principles that lay the foundation for this study. It identifies gaps in the body of knowledge looking at theory directly related to the research topic as well as at research of 'parent' domains (Perry, 1998).

Chapter 3 examines in detail the design, the methodology and the techniques by which it is intended to carry out the study based on a predominantly qualitative methodology (Glaser & Strauss, 1967; Guba & Lincoln, 1998; Huberman & Miles, 2002; Robinson, 1995; Silverman, 2005; Strauss & Corbin, 1994) to achieve the study's objectives. It links the research questions to the respective research steps that are necessary for collection and analysis of data. It shows how the study moves progressively through a grounded theory approach (Chen, 2005; Corbin & Strauss, 2003; Glaser & Strauss, 1967; Strauss & Corbin, 1994) leading to the final outcomes of the study in the form of key principles (Locke, 2002; Peikoff, 1991).

Chapter 4 provides a detailed description of the data analysis stages of the study (Creswell, 2003; Huberman & Miles, 2002; LeCompte, Millroy, & Preissle, 1992; Seale, 1999; Silverman, 2000). Flowing from an ongoing process of document analysis, semi-structured interviews (Fielding, 2003; Fontana & Frey, 2003; Rubin & Rubin, 2005) are used to tease out the broader issues. Findings from the analysis are used to formulate a web-based survey (Devlin, 2002; Siragusa & Dixon, 2006) of a wide cross-section of students who have participated in postgraduate distance education in project management over a three and a half year period. Findings from the analysis of those data have been used to structure six focus group sessions (de Ruyter, 1996; Jones, 2004; O'Neil & Jackson, 1983) involving stakeholders who have a wide range of expertise and who bring multiple perspectives to the development of suggestions to address the issues examined in the focus groups. The

findings from focus groups have been explored and refined through the use of Goodyear's pedagogical framework (Goodyear, 1999) to develop a series of key guiding principles to satisfy the aims of the study.

Chapter 5 provides an interpretation of the significance of those principles for the project management program in particular and for USQ in general. It explores the impact that implementation of the principles would have on the policies, procedures and practices of the University and of the faculty in which the program is housed. It provides recommendations by which key stakeholders can implement the principles and suggests ways by which further research can be carried out to explore the major teaching and learning concepts that have been identified through the study.

2 Literature review

2.1 Introduction

The review of the literature provides an overview of the major topics of the research problem, identifies seminal works in the respective domains, identifies gaps in the body of knowledge, and aids in defining the most appropriate approach for undertaking the study (Hart, 2000; Perry, 2002; University of Melbourne, 2004).

2.2 Approach to carrying out the literature review

Generation of distance-education theory helps to ‘interpret experiences, to guide systematic research, to develop distance education, to train the distance educators, and finally, to elucidate the problems of distance education in discussions with face-to-face educators’ (Delling, 1978, cited in Holmberg, 1995a, p. 1). As the aim of this study is the generation of theory, the literature review focuses on the context and setting of the study. Existing theoretical frameworks have been identified to assist in framing the study, to aid the collection and analysis of data, and to aid the generation of key principles (Perraton, 2000).

To develop a theoretical foundation for the study (Perry, 2002), the literature review explores the respective domains defined in the research question (Mishra, 1998, pp. 267, cited in Berge 2001). This chapter examines the major domains of what Perry describes as the ‘research problem theory’ (Perry, 2002, p. 20), including theories of learning, postgraduate study and mature-age learners, and project management education.

2.3 Learning, teaching and higher education

2.3.1 Learning and teaching

Distance education has unique characteristics that must be clearly identified and understood (McIsaac & Gunawardena, 1996). In most distance education scenarios, it is difficult to tease out the learning issues that relate solely to ‘distance’ from those that are generic in nature and which apply to all learning situations. It can be argued (Bates, 1990; Holmberg, 1995b; Taylor, 1995) that all education is distance education to some extent, made up of some learning tasks and activities that occur in socially-situated locations such as classrooms, and the remainder of which occur in isolation such as reading learning materials, studying away from the school or university location, doing homework or assignments in the library or at home, or talking about content matter to friends and colleagues at work or at the coffee shop. Bates (1990, p. 6) has argued against the myth ‘that students in conventional institutions are engaged for the greater part of their time in meaningful, face to face interaction’ and suggests that for both face-to-face and distance education students in higher education contexts, ‘by far the greatest part of their studying is done alone, interacting with text books or other learning media’ (Bates, 1990, p. 6).

It is not the intention in this study to undertake a detailed review of the history of learning, but it is of value to provide a brief summary of relevant learning theories, as current views on learning are critical to an understanding of distance education within USQ. Although John Dewey (1998) is held in high regard as a noted early pioneer in education during the early part of the twentieth century, his views are not often associated with distance education. Dewey (1998) also believed passionately in educational democracy in that provision should be made for wider access - that it should be available for all - a notion that did not gain significant momentum until the end of the twentieth century. However, the principles underlying his philosophies relate strongly to distance education in that he believed that there must be engagement between education and experience, that educators and students must engage in reflection, and that learning is related to interaction or a transaction

between students and other dimensions of learning including the environment in which learning takes place (Garrison & Anderson, 2003; M Smith, 2007). These views are not dissimilar to those of contemporary educators.

Deep learning and common understandings ‘result from social negotiation of meaning which is supported by collaborative construction of knowledge’ (Jonassen, Mayes, & McAleese, 1993, p. 34). Mayes (Mayes, 2001; Mayes & de Freitas, 2004) suggests that effective learning, regardless of mode, is dependent upon the three stages of:

- Conceptualisation – ‘the users’ initial contact with other people’s concepts’;
- Construction – ‘the process of building and combining concepts through their use in the performance of meaningful tasks’; and
- Application – ‘the testing and tuning of conceptualisations through use in applied contexts’ and characterised in education as dialogue.

Dominant theories of learning in the first half of the twentieth century related to philosophies of behaviourism and cognitivism. As proponents of behaviourism, researchers such as Pavlov and Skinner demonstrated a relationship between stimulus and response as a learning mechanism, and believed that ‘learning is a change in observable behaviour caused by external stimuli in the environment’ (Ally, 2004, p. 3). Cognitive theorists viewed learning as ‘involving the acquisition or reorganization of the cognitive structures through which humans process and store information’ (Good & Brophy, 1990, p. 187).

Although such theories do not align well with the nature of distance education and the remoteness between teacher and learner, they did anticipate a freedom that technology could provide for educators as machines such as computers could take over the more mundane and mechanical aspects of teaching (Keegan, 1997). Skinner suggested in the 1960s that ‘the machine could free the teacher from custodial duties to begin to function through intellectual, cultural and emotional contacts of that distinctive sort which testify to the teacher's status as a human being’ (Skinner, 1954,

in Keegan, 1997, n.p.) and Holmberg has argued that ‘distance education is open to behaviourist, cognitive, constructivist and other modes of learning’ (Holmberg, 1995a, p. 7). Although it has an element of industrialisation in the ways by which it is developed and made available to learners, distance education still caters for individualisation and one-to-one relations between students and tutors through mediated interaction (Holmberg, 1995a).

In the latter part of the twentieth century, educational theorists increasingly advocated that learners construct their own reality and that ‘an individual's knowledge is a function of one's prior experiences, mental structures, and beliefs that are used to interpret objects and events’ (Jonassen, 1991, p. 10). Although there is a spectrum of views on constructivism, the constructivist view of learning may be summarised as:

- *The learner actively constructs knowledge, through achieving understanding*
- *Learning depends on what we already know, or what we can already do*
- *Learning is self-regulated*
- *Learning is goal-oriented*
- *Learning is cumulative* (Mayes & de Freitas, 2004, p. 16)

The constructivist view on learning aligns closely with the characteristics of postgraduate distance education for the development of effective teaching and learning practices as indicated in Table 2.1. The implications of the constructivist point of view for this study are discussed later in this review.

Table 2.1: Constructivist view of learning related to postgraduate distance education

Constructivist view of learning (Mayes & de Freitas, 2004, p. 16)	Characteristics of postgraduate students suggested by the literature	Characteristics of distance education suggested by the literature
The learner actively constructs knowledge, through achieving understanding	Postgraduate students are active, self-motivated, independent learners	Distance education provides an almost infinite number of pathways to locate information and learning resources
Learning depends on what we already know, or what we can already do	Postgraduate students bring a wealth of life experience and prior learning, both formal and informal, to their studies	Distance education allows simultaneous exploration and incorporation of associated learning, activities and practices
Learning is self-regulated	Postgraduate students are independent learners who are able to regulate their learning to in accordance with their personal and professional circumstances	Distance education allows flexibility in the pace of learning
Learning is goal-oriented	Postgraduate students are mature-aged and have well-defined learning objectives	Distance education allows students to achieve most learning objectives
Learning is cumulative	Postgraduate students build upon existing knowledge and skills in an area of expertise, or add new knowledge and skills in a new discipline to supplement existing ones	Distance education allows students to retrieve and incorporate prior knowledge and skills into current studies

(Source: adapted from Mayes & de Freitas, 2004)

2.3.2 Teaching and learning in higher education

Universities are regarded as having commenced around the twelfth century in the cities of Bologna and Paris and were characterised by the availability of defined courses of study, the granting of degrees, and the organisation of teaching areas into faculties along the lines of recognised disciplines, characteristics which continue to define universities of today. Higher education has a much longer history and can be traced back to the Academies of the Golden Age of Greece almost 2,500 years ago (Ó Súilleabháin, 2004). In the early part of the nineteenth century, the new Berlin University created a model that persists today where academic staff were employed by the state, but were expected to maintain their intellectual freedom to research and teach in their chosen areas of expertise, and where students had the freedom to

choose the area of study of interest to them, which is seen as an early example of student-centred learning (Ó Súilleabháin, 2004). That academic freedom has increasingly come under threat, and recent trends in higher education include greater politicisation with demands for accountability and efficiency, and where bureaucratisation has led to an increasing flow of funds to administration rather than to the traditional 'core activities of teaching and learning' (Ó Súilleabháin, 2004, p. 32; Saunders, 2006).

Traditionally, higher education in Australia had been regarded as a privilege during most of the twentieth century, with only a small minority of the population gaining a university degree. Higher education in Australia became more affordable in the 1970s when university fees were abolished, and this was reflected in the increased level of enrolments during the 1970s and 1980s. This period coincided with the early years of the institution which is the setting for this study. The federal government at that time concluded that the public purse could no longer afford to cover the costs of university education and the Higher Education Contribution Scheme (HECS) was introduced in 1989 to recover costs of university education from students once they entered the workforce following graduation (Reid, 2005). HECS generated additional funding for the higher education sector, which was then able to develop a broader range of programs and provide greater student choice and flexibility. Since that time, the higher education system has adopted an increasingly-commercial focus in their administration and management, and this has given rise to many of the issues identified in this study.

USQ commenced operation as the Queensland Institute of Technology (Darling Downs) and in 1971 became the Darling Downs Institute of Advanced Education (DDIAE). Distance education became a central focus of the DDIAE in 1978 when the External Studies Department was established, and this allowed the institute to achieve considerable growth in enrolments across Australia and offshore. It obtained full university status in 1992 and gained global recognition in 1999 by being awarded the Institutional Prize of Excellence from the International Council for Open and Distance Education as a dual-mode university (University of Southern Queensland, 2007h). This study will examine whether the academic profile of the University has

changed over that time, whether other distance education institutions have gained equivalent status, and the extent to which traditional universities not previously recognised as distance education providers have gained ground in offering flexibility to students through online and blended learning modes of study.

In the area of postgraduate studies, the literature suggests that the student and employer demands for flexibility have driven innovation across the higher education landscape (Collis & Moonen, 2001; Kavanagh, 2000; Moran & Myringer, 1999; Postle, Taylor, Taylor, & Clarke, 2000; Wade, Hodgkinson, Smith, & Arfield, 1994).

2.4 Postgraduate education

There is considerably less literature on postgraduate coursework programs in comparison with research-based programs, particularly in Australia, suggesting a limited amount of research into the unique circumstances and behaviours of postgraduate coursework students in general, and of those in distance education in particular (Herrington, Sparrow, & Herrington, 2000; Lee & Green, 1998; Ramburuth, 2000). However, there is recognition of the growing importance of postgraduate education as it moves from a fringe activity to centre stage (Donaldson & McNicholas, 2006), particularly in terms of the revenue that it generates from full fee-paying programs. Adding to the confusion is the wide range of programs that are described as ‘postgraduate’, including programs that are ‘postgraduate in time’ (or conversion courses, effectively comprising undergraduate subjects packaged into postgraduate programs for students who undertake their studies in a discipline other than the one in which they have completed undergraduate studies). They also include those that are ‘postgraduate in level’ (designed to provide a higher level of mastery within the student’s existing discipline).

Equivalent postgraduate programs in the United Kingdom and the profile of students who enrol in them have been examined by the Higher Education Policy Institute (Sastry, 2004), and provide valuable lessons for Australian universities. The commercial focus of universities globally since the conversion of institutes and colleges of advanced education to university status has increased the level of

competition for additional sources of revenue, and postgraduate coursework programs have become attractive to mature-aged students with no prior tertiary education or those who seek to maintain a competitive edge (Donaldson & McNicholas, 2006).

In USQ, three of the top twelve programs (based on enrolments) are postgraduate coursework programs and in 2008, the project management program was the fourth-largest postgraduate program in the University three years after accreditation (Baker, 2007b). In a trend that is highly relevant to the project management program, occupations that are in the process of becoming graduate occupations 'will look increasingly to the universities to provide accredited training for their members (Sastry, 2004, p. 49). Three of the top four postgraduate programs in USQ are offered through the Faculty of Business – the Master of Business Administration (MBA), Master of Professional Accounting and the Master of Project Management (Baker, 2007b). All three programs are coursework-based, aimed at middle to senior managers in public and private organisations, focus on management disciplines and incorporate similar methods of evaluation and assessment, suggesting that the findings of this study may have relevance to other programs.

Postgraduate cohorts tend to be homogeneous in respects such as employment and family commitments and heterogeneous in other respects such as in the diversity of age, levels of prior academic study, and geographic location (Holmberg, 1994; Lukic, Broadbent, & Maclachlan, 2004; Stuparich, 2001). Few postgraduate students undertake full-time study. Adult learners tend to choose 'open learning' (Forsyth, 2002; Lewis, 1997) for reasons of availability, convenience, flexibility and adaptability to individual needs, and often cite 'free pacing' as a distinct advantage, but this is truly available in few institutions (Holmberg, 1994, p. 24). The purpose of postgraduate education has moved from one of advanced training in students' existing professions to one of developing skills and knowledge across a range of sectors as part of a social trend towards lifelong learning (Donaldson & McNicholas, 2006).

The number of students enrolling in project management courses (subjects) has increased significantly over the period of this study as discussed previously. In parallel with this growth has been the increase in the participation of international students who enrol in both on-campus and off-campus modes (University of Southern Queensland, 2006). This has added to the diversity of the student cohorts and the demands on academics to cater for students from different cultures, time zones, languages and preferred learning modalities and who bring widely different levels of motivation and expectations to the learning experience. The challenge of educating both groups requires ‘an understanding of the students and the educational cultures from which they come and a willingness on the part of teachers to question their own assumptions - including some which may be written into the curriculum’ (Sastry, 2004, p. 54). Although personal satisfaction has been identified as one important factor in the decision to undertake postgraduate studies, students have tended to select work-related courses that provide a theoretical perspective and that have enabled them to undertake their role effectively and which have helped them to acquire ‘skills and knowledge necessary for their current or future job’ (Donaldson & McNicholas, 2006, p. 351).

The extent of prior learning experience varies widely and students in a particular course may be at varying stages of progress through their respective programs. The modularised nature of coursework programs creates a situation where there is a wide cross-section of prior experience in higher education study, proficiency in study techniques, and level of autonomy as independent learners. Brookfield has criticised the separation of self-directed learning from social context or setting and argues that learners can only be self-directed and autonomous when they ‘begin to think critically about the social world, and about their capacity to shape it to their own needs rather than being conditioned by it’ (Brookfield, 1987, cited in Jarvis, Holford, & Griffin, 1998, p. 84). At postgraduate level, it becomes increasingly important for mature-age and experienced students to situate their learning within their personal and professional circumstances, and many educators regard the workplace as ‘the most ‘authentic’, relevant and ‘situated’ site for vocational learning’ (Chappell, 2004, p. 7) but this has not often been incorporated into models of distance learning.

Part of this dilemma stems from the nature and circumstances of the academic staff engaged in postgraduate distance education. Some staff may be regarded as long-standing 'career academics' who focus on research and publications to achieve promotion and higher standing within the academic community and within the University structure which rewards such behaviour and attitudes, but this standing may be achieved without ever having set foot in the world of business (Donaldson & McNicholas, 2006). In contrast, others may have entered academe following lengthy careers in industry and have limited interest in pure research but who have made a significant career change in order to give back to their chosen profession through a passion for teaching. Disturbances can arise where these two cultures intersect, and where organisational values and objectives are too inflexible to accommodate the diversity of views and personal objectives of the academic staff who attempt to bring innovation to the process and who take a student-centred view of academic life above all else.

Postgraduate programs tend to be less structured than undergraduate degree programs. In USQ, students can choose multiple pathways to complete their postgraduate studies and can often choose from a range of elective subjects to design their own learning outcomes. This leads to a greater degree of diversity in student background, entry attributes, program of study, level of progress within the program, and the importance of individual courses to students' learning objectives. Students bring different expectations and demands to their learning, and often from a consumer perspective (Cochrane, 2000). This places different demands on the academic facilitators in terms of the role they are required to undertake compared to those of traditional on-campus models. The literature suggests that these roles should be less about 'holding the students' hands' throughout the program and more about 'the notion of teacher as facilitator, as challenger of the manager's view of the world, and as co-learner' (Monks & Walsh, 2001, p. 155). These changing demands on academic staff are explored in this study.

The nature of postgraduate study and the learning objectives of postgraduate students are also reflected in the nature of assessment, where the elimination of examinations and their replacement by work-based projects can be 'a liberating experience' for the

students and academic staff (Monks & Walsh, 2001, p. 155). Students can be encouraged to read more widely and to delve into the literature of their respective disciplines rather than being constrained by the generic materials set by academic staff, and they tend to share their new-found learning in discussions and debates with others in the student cohort. Where studies are ‘channelled towards real live problems’ (Monks & Walsh, 2001, p. 155), they take on more significance for the students and for employer organisations that often financially and philosophically support those students. However, there are conflicting academic and administrative issues arising from such situated learning (Lave & Wenger, 1991; Stein, 1998), and these are explored in this study.

2.5 Distance education

2.5.1 Education at a distance

The term ‘distance education’ became more commonplace during the 1980s with the establishment of distance education centres in a number of regional Australian universities, but at times it has been called external studies, distance studies, distance teaching, distance learning and correspondence studies to name just a few (Roberts, 2000). The inconsistent and sometimes inappropriate use of terms such as ‘online’ and ‘e-learning’ have diverted attention from the pedagogical principles that underpin education at a distance – very little distance education is purely ‘online’. Inconsistency in the use of descriptors for learning at a distance and the use of superficial slogans such as ‘any place/any time learning’ are seen as ‘deflecting attention from the more critical issues of extending our understanding of the effective practice of distance education’ (Kanuka & Konrad, 2003, p. 391). Distance education is a pedagogical phenomenon that is independent of the communication medium – the use of ‘distance education’ as a descriptor brings together ‘both the teaching and learning elements of this field of education’ (Keegan, 1996, p. 37) and ensures that the focus is equally on both sides of the equation – teaching and learning.

Distance education is regarded as having its origins in the United Kingdom during the industrial age in the mid-nineteenth century with the commencement of the railways and the postal services which were essential for the distribution of learning materials (Keegan, 1997). The University of London established a range of programs in 1858 where external students could follow the curriculum for a limited number of degrees and sit the examinations without ever going to London (Ó Súilleabháin, 2004). This period may be seen as the beginnings of the industrialised model of distance education defined by Peters (Keegan, 1980, p. 4), equating with what is commonly regarded as first-generation (correspondence model) of distance education (Taylor, 2001b). The industrialised model of distance education incorporated 'production line' philosophies into education with highly-structured educational programs designed to be carried out in a strict sequence and at a pace defined by the provider according to the regular postal distribution of learning materials. Distance education using correspondence models began in Australia early in the twentieth century to address the needs of rural families scattered geographically across Australia, but did not reach a significant scale at tertiary level until much later in the century (Erdos, 1986).

Although distance education in universities is generally perceived as a recent phenomenon in Australia, it has been a facet of traditional universities since the early years of the twentieth century when T. E. Jones was appointed 'Director of Correspondence Studies' at the University of Queensland in 1911 (Roberts, 2000). The Royal Melbourne Institute of Technology commenced distance education for returning servicemen after the First World War, and distance education was increasingly offered by other universities during the period up to the 1970s. The University of New England initiated the model that is now commonplace throughout Australia, whereby lecturers taught both on-campus and distance students, and both cohorts received the same qualification (Erdos, 1986). It was not until the mid-1970s that the number of external students in colleges and institutions of advanced education exceeded those in traditional universities as remotely-located learning institutions sought new markets through distance education. At that time traditional universities chose to focus on their core business, which was reflected in the growing enrolments in conventional face-to-face educational programs, rather than on the

‘sideshow’ of external studies (Roberts, 2000). Since that time, the smaller regional universities have taken the initiative to examine the seemingly contradictory issues of providing education at a distance (McLoughlin, 2002; M Oliver, 2000; Postle et al., 2000; Taylor & Swannell, 2001).

Almost a century ago, Jones proposed principles of effective distance education to counter scepticism that students could learn effectively without face-to-face lectures and tutorials:

1. *The work of external students should synchronise as closely as possible with that of internal students;*
2. *External students should submit to the same examination tests as internal students, and receive identical credit;*
3. *External students should receive as far as possible the same assistance as internal students;*
4. *External and internal students should pay the same fees;*
5. *External students should be able to sit for examinations at centres in rural areas* (Roberts, 2000).

Although many of those principles were difficult to achieve at that time because of physical, technological and financial constraints on external studies programs, aspects of those principles are still relevant almost a century later as educational technologies have allowed teaching and learning to be undertaken in a way that offsets the ‘tyranny of distance’ (Taylor, 1995) that existed in early models of distance education.

In 1983, Professor Richard Johnson published ‘Evaluations and Investigations Program – The provision of external studies in Australian Higher Education’ and concluded that Australia needed distance education ‘for reasons of geography and convenience’ (Erdos, 1986, p. 11) and that provision should be coordinated on a national scale. The federal government later funded the establishment of specialised

distance education centres in a number of regional higher education institutions, one of which was the Darling Downs Institute of Advanced Education (now a university) which is the setting for this study. Taylor and others have documented the development of distance education through various stages commonly depicted as the four (or five) generations of distance education (Garrison & Anderson, 2003; Taylor, 1995, 2001b) although it is questionable as to whether they are really ‘generations’ as all stages co-exist and are still in use in one form or another. Table 2.2 illustrates Taylor’s model suggesting there have been five generations to date.

Table 2.2: Models of Distance Education

Models of Distance Education and Associated Delivery Technologies	Characteristics of Delivery Technologies					
	Flexibility			Highly Refined Materials	Advanced Interactive Delivery	Institutional Variable Costs Approaching Zero
	Time	Place	Pace			
FIRST GENERATION - The Correspondence Model • Print	Yes	Yes	Yes	Yes	No	No
SECOND GENERATION - The Multi-media Model • Print • Audiotape • Videotape • Computer-based learning (e.g. CML/CAL/IMM) • Interactive video (disk and tape)	Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes	No No No Yes Yes	No No No No No
THIRD GENERATION - The Telelearning Model • Audioteleconferencing • Videoconferencing • Audiographic Communication • Broadcast TV/Radio and Audioteleconferencing	No No No No	No No No No	No No No No	No No Yes Yes	Yes Yes Yes Yes	No No No No
FOURTH GENERATION - The Flexible Learning Model Interactive multimedia (IMM) online Internet-based access to WWW resources Computer mediated communication	Yes Yes Yes	Yes Yes Yes	Yes Yes Yes	Yes Yes Yes	Yes Yes Yes	Yes Yes No
FIFTH GENERATION - The Intelligent Flexible Learning Model Interactive multimedia (IMM) online Internet-based access to WWW resources Computer mediated communication, using automated response systems Campus portal access to institutional processes and resources	Yes Yes Yes Yes	Yes Yes Yes Yes	Yes Yes Yes Yes	Yes Yes Yes Yes	Yes Yes Yes Yes	Yes Yes Yes Yes

(Source: Taylor, 2001b, p. 3)

Generations 1 to 3 moved through correspondence, multimedia and tele-learning, with the fourth generation representing a significant step forward, incorporating what we now regard as media-rich educational technologies. This created opportunities to simulate at a distance the teaching and learning environment previously associated

only with face-to-face teaching in a classroom. First generation distance education models are associated with the industrial models of production (Peters, 1989) and relied heavily on printed materials, but even these basic learning resources could be designed in such a way as to facilitate guided didactic conversation which has been a central argument by Holmberg (Keegan, 1997) for many years before conversational frameworks (Laurillard, 1993) became more commonly recognised. Garrison and Anderson (2003) argue that the defining characteristics of each generation are the type, extent and integration of various types of interaction, and point out that each of those generations has been used both well and badly, and it is the way in which they are utilised for teaching and learning that determines their effectiveness rather than the category into which they are placed. The continuing development and implementation of educational technologies contribute to the issues that arise in relation to the project management program and these are examined in this study.

2.5.2 Principles of distance education

There are many views and definitions of distance education (Holmberg, 1986; Keegan, 1996; Moore, 1973). The focus on distance education in this study has been taken deliberately in order to differentiate the broader range of issues from those related to more specific instances of distance education represented by online education, networked education or e-Learning, which tend to suggest that technology is the key factor to be examined (Ó Súilleabháin, 2004). The major problems are not with technology – the major problems ‘are associated with the organizational change, change of faculty roles, and change in administrative structures’ (Moore, 1994, p. 4). Keegan noted more than twenty years ago that administrators often see distance education as a ‘fringe form of conventional teaching’ (Keegan, 1980, p. 14) and those views are still commonplace. The literature suggests that the problems are more likely to arise from the organisational context and the cascading issues that flow from organisational values and practices. For the purpose of this study, Keegan’s view of the characteristics of distance education is adopted:

- The quasi-permanent separation of teacher and learner;
- The influence of an educational organisation in the planning, development and distribution of learning materials and student support services;
- The use of technical media;
- The provision of two-way communication to allow students to participate in and instigate dialogue; and
- The quasi-permanent absence of other students so that learning takes place as individuals and not in groups (Keegan, 1996, p. 50).

A focus of this study relates to the conflict between the teaching and learning activities and the policies and regulations that dictate much of what academic staff do and how they are obliged to go about it. One view is that the only important outcome in distance education is the learning by individual students and that ‘administration, counselling, teaching, group work, enrolment, evaluation are of importance only in so far as they support individual learning’ (Keegan, 1997, n.p.). The dimensions of distance education that require careful consideration in order to achieve this outcome have been defined as:

- The organisation and administration of the system;
- The educational relationships between teachers and learners; and
- The kinds of learning materials and modes of delivery most appropriate to meeting distance students’ learning needs (Jarvis et al., 1998, p. 107).

Little research on distance education was published until the 1960s and scholars have since called for a consistent, conceptual framework for research in distance education as a basis for a ‘unifying’ theory (Berge, 2001). Although each educational program has unique characteristics, Goodyear (1999) has proposed a learning model of open

and distance learning for research purposes that allows each educational program to be evaluated within a broader framework illustrated in Figure 2.1 and comprising:

- the pedagogical framework (consisting of philosophy, pedagogy, strategy and tactics),
- the educational setting (consisting of environment, tasks and student activities which lead to learning outcomes) and
- the organisational context.

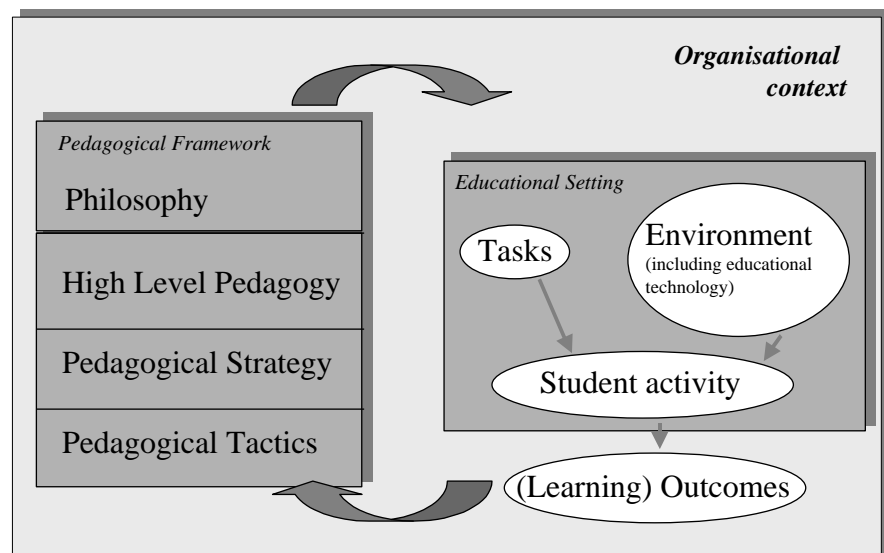


Figure 2.1: Goodyear's model of open and distance learning
(Source: Goodyear, 1999, p. 11)

Such a model provides a valuable conceptual framework although, as Goodyear (1999) highlights, the risk is that such models simplify complex processes and relationships. However, the model reinforces the need to consider the multiple layers present in a learning environment in order to carry out research that is holistic rather than fragmented or piecemeal. Knowledge of the philosophies and values that underpin the organisational context of USQ is critical to an understanding of the drivers for many administrative and pedagogical practices that define the learning

institution. Pedagogical practices may be driven by organisational policies that differ from the personal philosophies of academic staff members who then face conflicts between a desire to provide a meaningful learning experience for students and the constraints imposed by administrative authorities. The actual educational setting reflects the 'hands-on' environment where learning actually takes place, and in a distance education model, that is difficult to anticipate and to control. The need for true flexibility and openness in such situations requires more than mere rhetoric.

The organisational setting should provide flexible access to the learning experience, resources and communication between academic staff and students. Distance education should be viewed holistically from the perspectives of the three primary stakeholders – faculty, students and administrators – as the barriers and issues perceived by these three groups are significantly different (Berge, 2001). Although distance teaching has become successful, 'it is important that its management remains in the hands of people who are motivated to serve others, not to serve the machine' (Moore, 1986), and this conflict between the focus of administrative and academic staff members is explored in this study.

The profile of Australian postgraduate university students is also changing. Between 1994 and 1999, there was a nine percent increase in 'the proportion of students who were studying full time, yet who were also in paid employment' (Stuparich, 2001, p. 4). This is the 'learner-earner', and many students who live close to universities offering on-campus programs 'are choosing distance education study not because it is the only alternative, but rather because it is the preferred alternative' (Thompson, 1998, p. 13).

The solution may lie in the provision of a more flexible environment for student learning, based on principles of 'open learning' (Bosworth, 1991; Dearnley, 2003; Hesketh, 1996; Latchem & Hanna, 2002; Tait, 2000) and 'flexible learning' (Laurillard & Margetson, 1997; Moran & Myringer, 1999; Postle et al., 2000), in order to satisfy the objectives and requirements of the learners, the professional community and the educational provider.

2.5.3 Barriers to distance education

Traditional institutional forms of learning may no longer be adequate to ‘keep up with the contemporary demand for learning’ (Chappell, 2004, p. 5), and distance education methods and systems are converging with those of face-to-face teaching under the influence of new electronic educational technologies (King, 1999; Moran & Myringer, 1999; Trindade, Carmo, & Bidarra, 2001). The focus today is on flexibility, student-centredness, networked learning, quality and efficiency (Moran & Myringer, 1999), and the term ‘distance education’ may become obsolete as distance education ‘merges into the so-called mainstream of educational systems’ (Ljosa, 1993, p. 37) or be displaced by ‘flexible learning’ (Moran & Myringer, 1999, p. 59). It has been argued that you can use any medium to teach anything (Perraton 1981, cited in Holmberg, 1995a), but the success or failure of a distance education project will depend as much on its political context as on its methods.

This study is predominantly about context and the implications arising from the organisational setting, rather than the specifics of the strengths and shortcomings of distance education. There are abundant examples of how distance education can be achieved in an effective manner, but the assumption is that the organisational context will support and provide adequate resources for the ideal situation to be achieved, and this study adopts an holistic perspective to identify key issues and concerns of stakeholders. The framework for analysis stems from the work of Engeström and others (Bannon, 1997; Engeström, 2000; Hung et al., 2005; Jonassen & Rohrer-Murphy, 1999; Koschmann, 1998; Ryder, 2007) who see organisational contexts as ‘activity systems’ that are internally contradictory, and in which systemic contradictions are ‘manifested in disturbances’ that offer ‘possibilities for developmental transformations’ (Engeström, 2000, p. 1). Such transformations progress through stages including questioning existing standard practices, analysis of contradictions, and examination and implementation of new models of practice

The International Council for Open and Distance Education (ICDE) has identified barriers to change in educational paradigms for distance education which include ‘resistance to new learning theory and practice, rigidity of organisational structures,

the tyranny of time, persistence of faculty roles and rewards, assumptions about learning content, constraints of regulatory and accrediting practices, and traditional funding formulas' (Moran & Myringer, 1999, p. 59). The British Open University and similar models of distance education have removed many of the constraints on entry and study, but the concept of 'open learning' (Morgan, 1990; Paul, 1993) is not automatically synonymous with distance learning and is a relative concept.

Institutional constraints often make it difficult to implement a genuinely student-centred approach to course design leading to the situation where the concept of open learning has a confused and contested status (Richardson, 2000). Distance education should not automatically be regarded 'as a subset of open learning' (Holmberg, 1993, p. 331) which is the term often used to differentiate distance education programs provided by single mode universities from those provided by dual-mode universities such as USQ where both distance education and on-campus programs are delivered.

Distance education in the twenty-first century has the capability of offering education anytime, anywhere and for anyone, and Gibson (1998) suggests that this should ideally happen in an educational paradigm of education for each, with a focus on the educational needs and objectives of each student. This would require an almost infinitely flexible model of student-focused learning but it would be prohibitively expensive to provide under existing models with their administrative and technological constraints. Flexible learning is seen as an approach to university education that provides students with the opportunity to take greater responsibility for their learning and to be engaged in learning activities and opportunities that meet their own individual needs (Richardson, 2000).

2.5.4 Distance education at USQ

In order to open up university educational opportunities to a wider range of prospective students, a number of regional universities and higher education institutions in Australia were each funded by the Australian Government in the late 1980s to develop a distance education centre (DEC), with one of those being USQ, which is the setting for this study. However, the attainment of university status in 1992 presented some identity problems as staff attempted to understand the

differences between ‘what was done successfully as a College of Advanced Education and what should be done as a fledgling university’ (Postle, 2004, p. 3). The earlier adoption of distance learning as a significant component of its teaching and learning in 1986 had further compounded this dilemma. The Distance Education Centres experienced rapid growth and were funded until the mid-1990s as a ‘means by which isolated and 'second chance' students could access higher education’ (Reid, 2005, p. 2), but the impetus was lost with the withdrawal of government funding and with the establishment of Open Learning Australia as a broker for universities without specialised distance education centres. The rapid growth of enrolments and the increasing proportion of students enrolling in distance education mode slowed in the early 1990s, with most of the future growth limited to distance education mode and this was reflected in enrolment patterns at USQ (University of Southern Queensland, 2007f).

In the late 1990s, educational technologies were introduced across the University on a broader scale in conjunction with NextEd Pty Ltd as a commercial partner to create *USQOnline*, a Blackboard-based LMS. This precipitated rapid growth in online models of distance education with components of large postgraduate programs such as the MBA program made available online to all students regardless of mode. The online environment provided for access to learning resources, development of discussion forums and facilities for assessment including online quizzes and submission of electronic assignments. However, the early stages of the implementation of online education for some programs were clumsy, with learning resources often limited to portable document format (PDF) files of existing print-based materials, colloquially referred to as ‘shovelware’ (McDonald, 2007; Postle, 2001).

The costs of developing learning materials of a suitable standard for distance education are often under-estimated, especially by non-academic staff, and these problems have been exacerbated through workload allocations which assume total standardisation of processes and resources across faculties, disciplines, programs and courses. In the 1980s, the Open University calculated that to prepare one hour of teaching materials required approximately 50 to 100 hours for development of

distance education study texts, 100 hours for broadcasting and 300 hours of work for audio-visual materials (Rumble, 1988). The role of the Distance Education Centre has changed since the implementation of the LTSU in 2005 with teaching staff now having reduced access to specialised staff who have traditionally provided instructional design services across faculties.

In the initial period following the introduction of *USQOnline*, use of the LMS in the Faculty of Business for discussion, interaction, communication, collaboration and assessment was inconsistent and sporadic and guidelines for its use were left to the discretion of individual course leaders, many of whom had been allocated responsibility for online teaching due to their role as course examiner rather than from a desire to be an early adopter of learning technologies.

Fourth-generation educational technologies (Taylor, 2001b) were introduced into USQ during the latter part of the 1990s, setting the stage for increased student enrolments but with limited expansion in the human infrastructure necessary to cope with the requirement for greater provision of educational services. As traditional universities have embraced educational technologies and entered the online arena, the cost of providing education to larger numbers of students has fallen and created a more competitive marketplace for those universities whose leadership in distance education have now come under threat. In a knowledge-driven era, it has been argued that to survive, organizations need to ‘change from rigid, formula driven entities to organizations that are “fast, fluid, and flexible”’ (Smith, 2005, p. 2). Furthermore, it is argued that previous traditional approaches based on conventional, classroom-based teaching and learning are no longer capable of ‘meeting the escalating demand for higher education in the knowledge society’ (Smith, 2005, p. 2).

Part of the University’s strategy for growth was directed at postgraduate students where full fee-paying coursework programs such as the Master of Business Administration (MBA) and project management programs were seen to offer opportunities for higher revenues without an increase in staffing costs through the integration of information communication and technologies (ICTs) (Smith, 2005, p. 3). A similar situation was examined at a global level and described as a ‘perfect

electric storm, where technology, the art of teaching, and the needs of learners are converging' with emerging learning technologies that 'are generating waves of new opportunities in online learning environments' (Bonk, 2004, p. 1).

In line with the findings of Bonk, development of distance education in the setting for this study has been at a pedagogical price as many online courses, programs and resources in the Faculty of Business have lacked 'sufficient interactivity and collaboration needed to effectively engage online learners' (Bonk, 2004, p. 3). Emerging models of distance education have led to significant upheaval in higher education. The previous paradigm of autonomous academic staff offering standardised learning opportunities to all students regardless of needs and learning objectives, has had to give way to one where autonomous and independent learners now demand individual learning experiences to be provided through consistent and standardised teaching models at program and institutional level (Twigg 2003, cited in Nunan, 2005, p. 5).

Growth in domestic university student demand coincided with growth in offshore demand culminating in peak enrolments in the early part of the current century (University of Southern Queensland, 2006). In programs within the Faculty of Business such as the Master of Business Administration, enrolments in individual postgraduate courses offered in distance education mode have exceeded 1,000 students, and staff have struggled to deal with these emerging models of distance education. The postgraduate program in project management was part of this growth with student numbers increasing beyond the level at which personal relationships with students could be maintained, requiring the involvement of additional staff who have little or no engagement with students. External markers are employed to evaluate student learning with no knowledge nor experience of the student learning activities and processes throughout the courses and the overall program.

Concerns that social and political forces would exacerbate the problems of increasing enrolments and large class sizes (Nunan, 2005) have been well founded, with increasing pressure on postgraduate students to hold part-time or full-time employment. Study modes across universities have tended to merge with less

differentiation between external and internal students (Ó Súilleabháin, 2004), measured more by the number of courses undertaken at any one time rather than a clear demarcation between on-campus and off-campus study modes. As students are forced into situations where they have to ‘earn and learn’ (Nunan, 2005, p. 2), learning institutions are utilising educational technologies to provide more flexible delivery modes for students and this has further blurred the boundaries as to the level of attendance on campus that is required for successful study. Universities are undergoing a paradigm shift to a situation where on-campus students choose to study some courses externally for convenience and flexibility rather than from necessity, and distance education concepts are becoming an integral component of all higher education programs and presented as flexible delivery (Nunan, 2005).

There is an increasing trend for mature age domestic students and international students to bring ‘consumer attitudes’ to higher education where they are unwilling to pay for services that they do not consume and seek a ‘stripped-down version of higher education’ (Levine & Sun 2002, cited in Nunan, 2005, p. 7). It is unclear what the consequences are of what is ‘stripped out’ as economic forces dictate that academic staff do more with less. Educational technologies may be seen as a two-edged sword. They overcome many of the perceived shortcomings of distance education related to communication, interaction and collaboration, but add to the expectations placed upon academics in terms of developing additional skill-sets, handling administrative aspects of the systems, development of learning resources and the effective utilisation of the technology for teaching at a distance.

2.6 Project management and professional education

In Australia, project management education has been ‘hijacked’ to some extent by the strong competency-based movement of the 1990s that defined the framework through which professional certification is provided by the major professional body (Todhunter, 2005). There is now a growing awareness of a need for consideration of a much wider range of competencies in education for aspiring professions such as project management (Cheetham & Chivers, 1996; Defence Materiel Organisation,

2005; Todhunter, 2006). As an emerging profession, project management lacks both a framework for practice and a framework for education (Jaafari, 1997).

The nature of project management employment and practice requires project managers to operate from remote locations with limited access to traditional modes of education, placing distance education in a favourable position to provide flexible learning opportunities. The need for flexibility in the approach to project management education at postgraduate level is supported by the view that learning must be made 'accessible at any time and from any place' to overcome the problems of 'full-time careers, family obligations, and community requirements' (Winters, 2000, p. 51).

Within Australia, most professional development of project managers takes place in competency-based training programs and there is limited evidence of the integration of theory in such education (Todhunter, 2003b, 2004b). Although there are research findings relating to the identification and evaluation of higher-order competencies for project managers, there is little alignment between the respective views (Birkhead, Maxwell, & Sutherland, 2000; Crawford, 1998; Frame, 1999). Considerable research has been undertaken into the identification and development of generic competencies for professional disciplines (Barrie et al., 1996; Cheetham & Chivers, 1996, 2005; Eraut, 1994; Gonczi, 1994; Linstead, 2001; Quartermaine, 1994) and these findings have been incorporated into the design of the student survey.

There is little evidence of research into the underlying principles of project management education, with even less evidence of research into such education at higher degree level (Todhunter, 2004c). Project management education has parallels with that of other professions such as engineering, surveying and architecture (Ioi et al., 2001) in that it requires development of a range of practical, vocationally-oriented competencies built upon a foundational discipline (Todhunter, 2004a), as well as higher-order attributes such as problem-solving, decision-making, people management and reflection on practice (Bloom, 1956).

This requirement creates a challenge for those who provide distance education, both in terms of creating an environment for learning and in carrying out assessment. It is difficult enough to create a simulated learning environment in the early stages of face-to-face learning let alone an authentic one in the later stages where skills can be practised and demonstrated. These problems are compounded in the case of distance education, where the creation of what Taylor (1994) refers to as ‘tangible reality’ becomes difficult if not impossible. In his paper on Novex Analysis, Taylor (1994) suggests that the process of achieving the transition from novice to expert in such fields necessitates a team approach including instructional designers, subject matter experts and associated staff, and involves:

- specification of the domain-specific cognitive skills that represent learning outcomes;
- analysis of the underlying declarative, affective and empirical knowledge base of experts in the field of study;
- evaluation of the knowledge base of students at commencement of their learning;
- design of the individual learning experience for each student;
- provision of scaffolded learning for students that is progressively related to their learning achievements;
- design and implementation of learning tasks that cover each of the knowledge areas to ‘replicate key elements of the organisation and content of the knowledge base of the expert’;
- provision of performance-related feedback through marked assignments and appropriate exemplars; and
- progressive assessment of the level of expertise achieved by the student.

Although there has been an increasing focus on graduate attributes in the higher education sector, there is often no differentiation between desirable graduate attributes for undergraduate and postgraduate students, whose profiles are

significantly different. A focus on professional competencies is strongly entrenched in the project management profession (Crawford, 1997, 2000a, 2000b, 2002), whereas contemporary learning (including vocational learning) ‘places more emphasis on the complete transformation of individuals’ (Chappell, 2004, p. 5). A much wider range of competencies is considered in current research into professional competencies and a framework for research into professional education requires consideration of (Dinham & Stritter, 1986):

- aspects of the learning experience (e.g. attributes of the learner, educational prerequisites, behaviours of the educator etc.),
- professional characteristics to be developed including cognitive, technical, attitudinal, psychosocial, socialisation and learning skills, and
- the profession to be studied (e.g. architecture, engineering, etc.).

Expanding on these considerations, Dinham and Stritter (1986) suggest the following framework for development of theoretical guidelines for professional education:

- What are the attributes of students that will result in better-prepared professionals?
- What are the aspects of professional education for students to master?
- What are the characteristics of effective practical instruction?
- What are the optimal characteristics and locations of sites in which practical learning takes place?
- What are the most efficient and effective methods of evaluating a learner’s practical performance?
- What is the most effective approach for assessing clinical instruction for improvement?

2.6.1 Distance education for professional development

As indicated previously in this chapter, there has been a paucity of original research into distance education, a failure to include theoretical or conceptual frameworks (Phipps & Merisotis, 1999; Sommerlad, 2003) and a failure to consider the effects of the broader learning environment (Goodyear, 1999; Sommerlad, 2003). The attributes of open and distance education may not align with the needs of vocationally-oriented professional education, and these should be explored more fully as ‘open’ learning may only offer quite limited dimensions of openness (Paul, 1993). The focus must be on ‘education for each’ requiring a flexible learning model that is difficult to achieve administratively (Gibson, 1998). In such environments, it is essential to maximise concepts of interaction, including learner-content, learner-instructor and learner-learner interaction, (Albion, 2006; Jarvis et al., 1998; Moore, 1973, 1993) and to consider a wider range of learning environments including the workplace which many educators see as the most authentic, relevant and situated site for learning for vocationally-oriented learning (Chappell, 2004). The effectiveness of distance education programs in professional fields can be related to principles of experiential learning, reflection and requirements for students to apply course concepts and skill development to their own workplace through assignments (Johnson & Thomas, 2004).

Distance education is well placed to overcome many of the conflicts between the professional demands on project management practitioners and their access to appropriate training and education. However, this raises the question of the suitability of distance education for vocationally-oriented programs, and this study endeavours to answer such questions.

2.7 Conclusions and summary

This chapter has provided an overview of the major dimensions of the study, placed them into an historical context, identified the seminal research findings in the respective domains, established the need for this study, and pointed the way towards defining the scope of the study and the approach by which it should be undertaken.

USQ has grown from its beginnings as a community-focused institution of advanced education to an innovative provider of education to a global community. It has benefited from political initiatives to broaden the opportunities of education for those who have been previously disadvantaged by geography, finance, technology or circumstance, and has achieved significant growth in size and reputation through its initiatives. Part of the growth has included expansion into distance education and the introduction of educational technologies to create teaching and learning communities on a global scale, and the consequences of those changes have created issues of concern within the teaching and learning environment.

The postgraduate project management programs have been a relatively new component of that strategy. Their rapid and continued growth raises questions on how to provide appropriate learning outcomes for students with diverse backgrounds in terms of location, discipline, employment, prior education and personal circumstances. The defined body of knowledge for project management and the vocational nature of the discipline create challenges for the effective development of professional attributes and expertise through the medium of distance education.

Because of ongoing changes in political and financial circumstances, the University is going through a process of self-evaluation and transformation at the time of writing in terms of infrastructure, organisational structure and values, and academic directions and philosophy. The outcomes of these processes are having profound effects on the structure and delivery of academic programs, on the staff who deliver them, and on the students who seek a quality educational experience and academic qualifications that are respected in the professional communities.

This study will explore the pedagogical and organisational setting of the postgraduate project management program by focusing on the University in a holistic sense through a case study approach to define key principles for guiding the development of a suitable theoretical framework.

3 Research design, methodology and data collection techniques

3.1 Theoretical approach

3.1.1 Purpose of the study

Chapter 1 has explained the background and provided a justification for undertaking the study, and Chapter 2 has explored the literature relating to the domains covered by the study. This chapter discusses the design and methodology adopted to achieve the study's objectives, and details the specific research methods to be adopted for collection and analysis of data.

The research problem has been defined as '*the need to define an effective learning environment for the provision of distance education for project managers at postgraduate level*'. To address such a broad problem, the overarching research question was defined as:

What are the guiding principles for the development of a conceptual framework for postgraduate distance education in project management?

In order to explore the many layers of this question, it was essential to address the following enabling questions:

- 1. What are the contextual issues that influence postgraduate distance education for project management in the case study setting?*
- 2. What are the current pedagogical frameworks, principles and practices guiding postgraduate distance education for project management in the case study setting?*
- 3. How did the move to distance education frameworks influence the teaching practices and learning outcomes for postgraduate project management students?*

4. *What are the characteristics and circumstances of the postgraduate project management distance education learners in the case study setting?*
5. *What are the key issues identified by those working in the area of postgraduate distance education in project management and how might these be addressed?*
6. *What are the emerging pedagogical frameworks in postgraduate distance education for project management in the case study setting?*

The aims and objectives of this study are to develop new theory through the identification of key principles to allow development of an appropriate conceptual framework for postgraduate distance education in project management. Development of new theory is not only ‘...respectable but extremely useful, perhaps even indispensable, in pursuing research on teaching’ (Snow, 1973, p. 77). Theory is defined as a ‘symbolic construction designed to bring generalisable facts (or laws) into systematic connection’ (Snow, 1973, p. 78) and consisting of a set of units (facts, concepts, variables) and a system of relationships among the units.

The focus of this study is on principles that relate specifically to the setting. In qualitative research studies, *methodologies* define how one goes about studying such phenomena, and *methods* provide the specific research techniques for collection and analysis of data (Silverman, 1997). The research paradigm and the research methodology suggest that grounded theory is the most appropriate approach for this case study (Creswell, 2005). Grounded theory refers to theory developed inductively from data from a specific case and which fits one dataset (Moghaddam, 2006) that is ‘...encompassed in a core category and related categories and concepts’ (McCann & Clark, 2003).

The conceptual framework to be developed for this study will be developed through (Snow, 1973, p. 90):

- a process of enrichment through which overly simple models are used as starting points to evolve into richer models,
- well-developed logical structures from other fields chosen as the starting point – AT was adopted at an early stage to aid the research design and the collection and analysis of data, and

- a process of looping between model modifications and data and between model assumptions and deductions – a more complex picture was built up of the organisational context, the pedagogical frameworks and the overall educational setting.

3.1.2 The research paradigm

Educational research rarely falls into a neat linear process, and it is necessary to first understand the context and nature of the research problem so that decisions can be made on practical issues related to the methodology. These in turn determine the specific methods and techniques to be employed for the collection and analysis of data necessary to answer the research questions (Creswell, 2005; Krathwohl, 1998). Research is a systematic investigation or enquiry into a phenomenon and this necessitates selection of an initial theoretical framework that is appropriate for the nature of this study (Mackenzie & Knipe, 2006). It is commonly proposed that there are quantitative and qualitative research paradigms. However, each educational research paradigm can justifiably incorporate multiple research methodologies that in themselves may be categorised as quantitative or qualitative. Mac Naughton, Rolfe and Siraj-Blatchford (2001, cited in Mackenzie & Knipe, 2006, p. 2) provide a clearer picture of a paradigm as comprising three elements:

- a *belief* about the nature of knowledge,
- a *methodology* and
- *criteria* for validity.

Following the identification of the relevant paradigm for the research study, decisions can then be made on the selection of the appropriate design and methodology. Paradigms may be divided into four classifications as follows:

- The *Positivist* and *Post-positivist* (after World War 2) paradigms embrace a rational scientific philosophy that attempts to predict and control forces around us, and utilises predominantly quantitative methodologies

- The *Interpretivist/Constructivist* paradigm grew out of phenomenology and hermeneutics with the intention of understanding the world and inductively developing theory from the research process, using predominantly qualitative research methodologies
- The *Transformative* paradigm seeks to extend the interpretivist/constructivist paradigm by entwining research enquiry with a political agenda, and tends to use qualitative or mixed methods of research
- The *Pragmatic* paradigm tends to focus on the problem and adopts practical research methodologies that are most appropriate for solving the problem (Mackenzie & Knipe, 2006, p. 3).

The interpretivist/constructivist paradigm aligns closely with the aims of this study which is to develop theory through the research process using predominantly qualitative methods and techniques. The pragmatic paradigm also aligns closely with the approach adopted for this study to focus on the problem and its context using practical research methods and techniques. This study is carried out within those paradigms, where

- an ‘interpretive’ view accepts that the rationality of one observer may not be the same as that of another observer (as opposed to the positivist view of an absolute reality) (Bassey, 1999; Silverman, 1997),
- a ‘constructivist’ view where experience is the foundation of and stimulus for learning (as opposed to a ‘cognitivist’ approach which ‘focuses on the individual’) (Sommerlad, 2003, p. 156), and
- a ‘pragmatic’ view that focuses on the research problem at hand and finds practical solutions and means to answer the research questions.

The philosophical hierarchy may best be understood as follows:

- *Ontology* relates to the question of ‘What exists?’
- *Epistemology* relates to the question of ‘How do I know?’ (Durant-Law, 2005, p. 15), and

- A *methodology* relates to ‘How can a researcher discover whatever they believe can be known?’ (Guba & Lincoln 1998, cited in Durant-Law, 2005, p. 16)

The constructivist approach in this study is characterised by the following elements (Creswell & Piano Clark, 2007, p. 24):

- Ontology: there are multiple realities and the researcher in this study provides quotes to acknowledge and illustrate the many views or voices of the respective stakeholders;
- Epistemology: the researcher has created situations to achieve physical proximity to the other participants and has interacted with them in their own space to collect data through interviews and focus groups; and
- Methodology: the researcher has taken an inductive approach and started with the participants’ views and gradually built these up to develop patterns, theories and generalisations.

3.1.3 Quantitative and qualitative methodologies

Research methodologies are often broken up into ‘*quantitative*’ and ‘*qualitative*’ (Creswell, 1994; Krathwohl, 1998; LeCompte et al., 1992; Silverman, 2000), although the terms apply more specifically to the type of data, the techniques for collection and the method of analysis (Mackenzie & Knipe, 2006). Quantitative research has a primary interest in the empirical testing of hypotheses that have been deduced from observations. In this study, the indeterminate starting point of the research proposal, the exploratory nature of the questions and the uncertainty of the outcome are not conducive to quantitative research methods.

In contrast, qualitative research is best described as ‘a form of enquiry that explores phenomena in their natural settings and uses multi-methods to interpret, understand, explain and bring meaning to them’ (Anderson, 1998, p. 119). This is appropriate as the selection of a research design ‘should follow from, or at least be consistent with, the definition of the research problem’ (Shaver & Larkins, 1973, p. 1254), and ‘researchers must distinguish between theory generation and theory verification and

adopt methods appropriate to each' (p. 1255). Rekkedal (1994) and Moore (1985) agree that distance education requires two kinds of research – one to help solve problems, and another basic form of research to extend existing knowledge and to generate theory. Moore has supported a grounded theory approach where theory can be 'inductively generated by systematic analysis of data' (Rekkedal, 1994, n.p.) through an immersion in the data which is experienced in a realistic context, and where that theory can subsequently be tested through empirical methods.

Given the nature of the enquiry, the numerous sources of data and the methods of data collection and analysis, this study adopts a mixed-methods approach and has the following characteristics which are aligned with those suggested by Keeves (1997, p. 278):

- It is *multi-disciplinary* involving research across the fields of higher education, professional education, distance education and project management practice.
- It is *multi-method* in terms of strategies and techniques using techniques derived from grounded theory, interviews and focus groups, all within a case study approach.
- It is *multi-level* in that it considers individual students, cohorts of students from the University, and the University itself as an organisational setting, and
- It is *multi-variate* and takes a holistic case study approach in which many factors and outcomes are considered together as operating in unison.

Characteristics that describe qualitative research and their application to this study are set out in Table 3.1.

Table 3.1: Characteristics of qualitative research and application to study

Characteristics of qualitative research	Application to this study
Qualitative inquiry occurs in natural settings, typically examining a small number of sites, situations, or people over an extended period of time.	This study adopts a university setting as the unit of analysis
Qualitative inquiry has an interpretive character. The data derive from participants' perspectives, and researchers attempt to understand the world from participants' frames of reference and the meaning people have constructed of their experiences.	Multiple views of participants will be obtained through interviews, surveys and focus groups in order to identify and explore those views
Reporting is rich with quotation, narration, and detail—what is termed “thick description.”	The language of the participants will be explored through content analysis of interviews and the findings will be supported and illustrated with their own words
Researchers are themselves the instrument for data collection and analysis through observing, participating, and interviewing. They acknowledge and monitor their own biases and subjectivities and how these colour interpretation of data.	The author is a participant in the setting and his experiences, values and objectives have precipitated the study and will provide a focus for the study's outcomes
Typical techniques are observation, field notes, archival records of events or perspectives (in order to confirm, supplement, or elaborate on primary sources), interviews, and questionnaires.	A wide range of data will be explored including artefacts and documents, both physical and virtual, to supplement other forms of data to be collected for the study
The process is inductive; data are collected to build concepts, hypotheses, or theories from observations and intuitive understandings.	Data of a qualitative nature will be collected and analysed, and findings will be derived through immersion in the data, identifying patterns as they emerge to provide rich descriptions of the observations (Gilgun, 2001)
The process is flexible; research designs can be changed to match the dynamic needs of the situation.	A research design is proposed as a starting point using AT as the overall framework. Specific steps will be refined and adjusted as the study proceeds, to reflect the implications of findings from successive stages
<p>The research problem typically:</p> <ul style="list-style-type: none"> ○ is related to lack of theory or previous research; ○ may be derived from the notion that existing theory may be inaccurate, inappropriate, or biased; ○ may be based on the need to describe phenomena or develop theory; or ○ may involve phenomena that are not suited to the use of quantitative measures. 	<p>This study:</p> <ul style="list-style-type: none"> ○ Is designed to address the lack of theory in relation to postgraduate distance education in project management and provide guiding principles for the development of a theoretical framework ○ Is best suited to an exploration of a specific case study where the phenomenon occurs ○ Requires collection of qualitative data to explore and understand the context of the phenomenon and the experiences of the participants

(Adapted from Imel, Kerka, & Wonacott, 2002, p. 1)

3.1.4 Quality of research outcomes

The main considerations in a study of this nature are usefulness and meaningfulness rather than ‘truthfulness’ (Llewelyn, 2003; Snow, 1973). An objective of qualitative research of this nature is to ensure that ‘no rival explanation exists for the data as well as the one being advanced’ (Krathwohl, 1998, p. 317), and this necessitates the consideration of internal and external issues of quality in data collection, data analysis and the drawing of conclusions (Bryman, 2001). The quality of outcomes for qualitative research of this nature is no less important than those for quantitative research, but the processes for collecting and analysing data are different so the conventional measures of validity, reliability and objectivity associated with quantitative research are inappropriate. There are many suggested criteria by which the quality of research outcomes from qualitative methodologies may be demonstrated, and the appropriate measures for this study are trustworthiness, credibility, transferability, dependability, and confirmability (Guba & Lincoln 1995, cited in Krathwohl, 1998; Miles & Huberman, 1994):

- *Trustworthiness* has been achieved by using rigorous and detailed techniques that provide an audit trail for others to follow so that they can have confidence and trust in the processes and outcomes.
- *Credibility* can be seen as the equivalent of internal validity and whether multiple observers see the same thing and agree on what they have seen (Guba & Lincoln, 1995, cited in Krathwohl, 1998). This has been established by providing evidence of plausible explanations for generalisation of findings, fidelity in the translation of terms, rationale, hypotheses, etc., demonstrating results through congruence of data with emerging theories, eliminating rival theories, confirming interpretations of the findings by gaining views of others, and thereby establishing overall credibility of the findings. Multiple interviews have provided the opportunity to compare and contrast views, as does the selection of interviewees from different layers of the institution. Bringing a wide range of experts together in the focus

group sessions and use of the nominal group technique (NGT) to identify solutions individually and collectively adds to the internal reliability of the study.

- *Transferability* can be seen as the equivalent of external validity and qualitative research overcomes the limitations of small and purposeful sampling and selection of a single case study by a number of means. Transferability has been established in this study by gathering rich and detailed data from multiple sources through interviews, surveys and focus groups involving a cross-section of stakeholders (Passfield, 2001). It has also been achieved by using multi-mode methods of data collection and analysis through examination of artefacts, interviews, surveys and focus groups, thereby providing multiple perspectives and triangulation of the data collection and analysis (Anderson, 1998; Bryman, 2001). In a study such as this, the uniqueness of the circumstances and the setting limit the extent to which findings can be generalised. However, the depth of the study, the multiple sources of data collection and the nature of data analysis have led to the identification of patterns, themes and guiding principles that may have application well beyond the boundaries of USQ.
- *Dependability* can be seen as the equivalent of reliability or the extent to which a study can be replicated, and is evidenced by consistency in the methods, techniques and processes for data collection and analysis throughout the life of this study. Consistent guidelines and procedures have been adopted and applied to the respective phases for carrying out interviews, testing and implementing the web-based survey, and carrying out the six focus group sessions.
- *Confirmability* relates to objectivity and is evidenced by full explanation and documentation of the processes and procedures for each stage of the data collection, analysis and interpretation. The researcher's personal position and role has been made explicit throughout the study and revealed to stakeholders who have participated in the study.

3.1.5 Boundaries of the study

Defining the boundaries of the study as a ‘case study’ is appropriate when an holistic, in-depth investigation is needed to bring out details from the viewpoint of numerous stakeholders through multiple sources of data (Tellis, 1997). Qualitative research requires the study of both subjects and situations in order to produce ‘descriptions of a case, a group, a situation, or an event’ (Kratwohl, 1998, p. 26), and this fits with a case study approach (Bassey, 1999). Within the case study, supporting methods will be used to collect data including interviews, survey and focus groups.

A case study approach is appropriate because of the complexity of the setting and the complexity of the relationships between the wide range of organisational and individual stakeholders in the community. It allows the collection and recording of data and the ‘presentation of the case’ to invite judgement by others (Stenhouse, 1990, p. 49). Sturman (1994, cited in Postle, Sturman et al., 2003, p. 11) suggests that human systems ‘develop a characteristic wholeness or integrity’, and that an in-depth case study of the interdependencies of parts and emergent patterns is needed to understand the case and to explain why things happen.

Use of a case study has allowed the researcher to access a wide range of ‘rich data’ through the following characteristics of this approach (Patton, 1990):

- The selected university provides a naturalistic ‘warts and all’ setting allowing the realistic nature of a complex university environment to be revealed;
- Inductive - categories have emerged from observation, creation and exploration, and consistent patterns have emerged from analysis of the data;
- Holistic – the study has looked at the total picture of USQ, examining all elements of the university over an extended historical time frame, identified what unifies the phenomenon, and examined the overall perspective within a complex system;
- Thick description – the study has provided lots of detail, with extensive data providing a voice to the actual players through their direct quotations;

- Personal contact – as one of the players within the setting, the author has been able to share the experience without trying to be an objective outsider;
- Dynamic – the extended duration of the study has brought about a situation of constant shifting with the changing phenomenon and context;
- Unique case selection – because of the uniqueness of the case study setting, the research study is not as concerned about generalisability beyond the postgraduate project management program;
- Context sensitivity – even though USQ may be regarded as a regional, medium-sized university, analysis of the case study setting has been able to emphasize the many aspects of the social, historical, and physical context;
- Empathic – the author has tried to take the view of other persons via introspection and reflection, yet remaining non-judgmental; and
- Flexible design – the details of the research design and data collection techniques were not specified completely before the commencement of the study, and continued to evolve as the implications of each stage were revealed and suggested the most appropriate direction for subsequent stages. Variables and hypotheses and sampling and methods were partly emergent with a need to unfold, and a need to be able to tolerate ambiguity.

Consistent with a framework suggested by Bassey (1999), this ‘theory-seeking’ empirical study:

- was predominantly conducted within the localised boundary of the selected university within a defined time frame,
- considered interesting aspects of project management education that have value (for USQ and the broader project management community),
- occurred within a natural setting with respect for the individuals concerned,
- was used to inform judgements and decisions (of educators and practitioners in project management), and
- was carried out in such a way as to explore significant features of the case, create plausible explanations, test for the trustworthiness of the interpretations, construe a worthwhile argument, relate the argument to relevant research in the literature,

convey the argument to others, and provide an audit trail by which other researchers may validate the processes or challenge the findings.

As an instrumental case study (Silverman, 2005), it allowed access to a wide range of participants including:

- individual staff members who provided insight into the provision of distance education,
- administrative and support staff, and
- students who provided insight into their learning experiences.

3.2 Research design

3.2.1 Conceptual and theoretical framework to guide the study

The research problem is the lack of an appropriate ‘framework’ of distance education for postgraduate students of project management, and this study uses primarily qualitative methodology and techniques to develop principles to assist in the development of a more comprehensive conceptual framework.

Initial interviews explored a broad range of issues with stakeholders within and external to USQ and revealed conflicts that required a more structured conceptual framework within which to explore and guide the ongoing research (Sowden & Keeves, 1990). A review of the literature identified Activity Theory (AT) as the most suitable framework to examine the ‘conflicts’ and ‘contradictions’ that emerged from this stage of data analysis. AT (Engeström, 1987), or Socio-Cultural Historic Theory, provides a framework for studying developmental processes and Ryder (2007, n.p.) provides a description of AT which is appropriate to the context of this study:

“An activity is undertaken by a human agent (subject) who is motivated toward the solution of a problem or purpose (object), and mediated by tools (artefacts) in collaboration with others (community). The structure of the

activity is constrained by cultural factors including conventions (rules) and social strata (division of labor) within the context.”

3.2.2 Activity theory (AT)

AT is cross-disciplinary and has provided opportunities to study processes at both individual and social levels consistent with the educational nature of this research project. In AT, the basic unit of analysis is the ‘activity’, defined as something we are doing directed at an object (a plan or an idea) that can be transformed into an outcome. The activity includes the context for human interaction and, as most actions take place in a context and within a community, these need to be included in any analysis (Kuutti, 1996). As activities are socially and contextually bound, an activity system can be described only in the context of the community in which it operates, and in which it ‘negotiates and mediates the rules and customs that describe how the community functions, what it believes, and the ways that it supports different activities’ (Jonassen & Rohrer-Murphy, 1999, p. 66). AT is useful because it focuses on the complex, situated, and distributed nature of ongoing activity (Roth & Tobin, 2002), and provides a useful lens that is consistent with an epistemological commitment to praxis. Contradictions occur in the form of ‘resistance to achieving the goals of the intended activity’ and have emerged as ‘dilemmas, disturbances, and discoordinations’ (Roth & Tobin, 2002, p. 114).

This study is not concerned solely with the tools of distance education, but with how a group of people (the community) use the tools, how they share the tasks among themselves, and the setting within which the teaching-learning activities occur. Within this activity system, there are several sub-activities that are interconnected and disturbances have occurred within and between sub-activities as manifestations of underlying ‘*contradictions*’ (Mwanza, 2002, p. 64). The identification, examination and analysis of contradictions have been a constant focus of this study as it moved through the respective stages. Understanding human activity in real-world situations involves ‘complicated data collection, analysis, and presentation methods’ (Yamagata-Lynch, 2007, p. 451), but AT offers a method that can ‘provide guidance to researchers when analysing and presenting complicated qualitative data

sets’ (Yamagata-Lynch, 2007, p. 451) such as those in this study. Although activity systems can be identified as isolated units of activities, those units exist within the broader, real-world context which has to be considered to understand the systemic implications. A strength of this study is the holistic focus on the complete organisational context as well as the opportunity to obtain multiple perspectives from a broad range of experts within the community.

AT is open-ended by its nature (Mwanza, 2002, p. 89) in that ‘...there is no established standard method for putting AT concepts into practice’ and it provides ‘...conceptual tools that must be applied according to the specifics and nature of the objective of the activity under scrutiny’. In this study, AT has been operationalised as indicated in Table 3.2 (Nardi, 1996):

Table 3.2: Operationalisation of Activity Theory in the study

Operationalisation of Activity Theory	Application in this case study
The research time frame needs to be long enough to understand user objectives for engaging in activity	This research study has taken place between 2002 and 2008 within USQ
There is a need to pay attention to broad patterns of an activity rather than narrow episodic fragments	In this study, data collection and analysis has taken place at the macro and micro levels through one-on-one interviews with a wide representative range of the community, a broad-scale survey of the student population, and small-scale focus groups of experts in the respective fields
There is a need to use various data collection techniques	Multiple data collection techniques have occurred in this study as discussed above
The researcher needs to be committed to understanding things from the users' point of view	The student perspective has predominated in this study with representation in all stages of data collection

(Adapted from Nardi, 1996)

Figure 3.1 is a simple model depicting AT and is used in this study to highlight the interplay between academic staff, educational designers, administrative and support staff and learners with respect to their individual goals and objectives. Where the student is regarded as the ‘subject’ and ‘learning’ is the object, a wide range of mediating factors is involved. The tools include learning materials and technology;

the community includes all academic and non-academic staff as well as workplace colleagues, family and fellow students; rules include all of the regulations, policies, and practices of the University, workplace, family and other institutions; and division of labour includes how the learning tasks and activities are structured and undertaken. The outcomes for any learning activity might be specific or part of a larger set of learning objectives. The strength of using AT in this study is that it provides a flexible and holistic framework by which analysis of such activities can be examined.

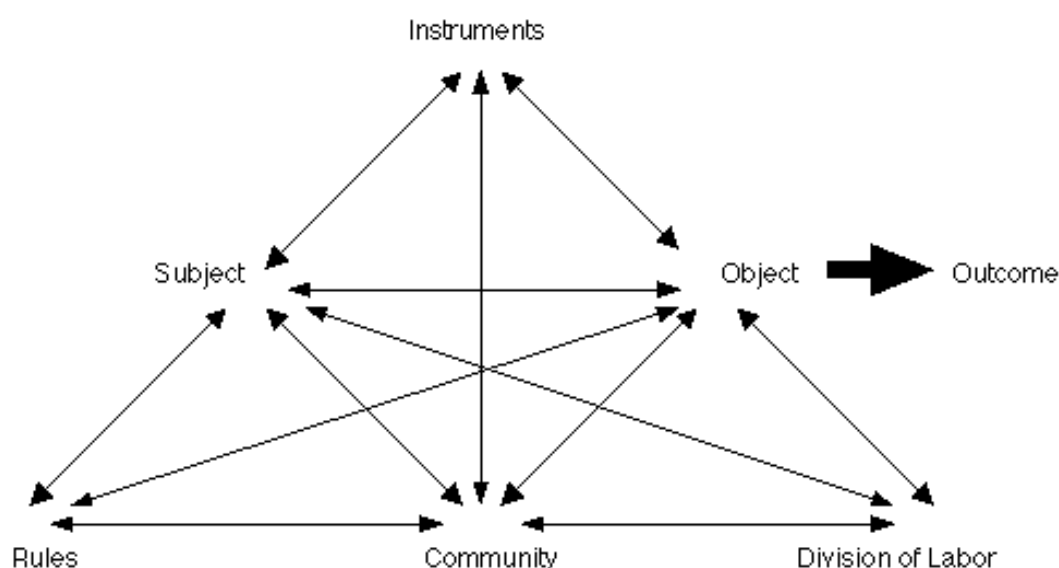


Figure 3.1: Basic components of an activity system
(Mwanza & Engeström, 2005, p. 458)

The AT model can be utilised for investigation of many contexts that exist within this study. In some instances, the ‘subject’ may represent the academic facilitator engaged in a range of activities focused on a specific object such as design of learning resources or course facilitation, and the instruments (tools), community, rules and division of labour will vary according to the activity and the object. In some contexts, the subject may be the student learner engaged in an activity related to the use of learning resources, doing assessment or participation in a discussion forum, and the tools, community, rules and division of labour will change

accordingly. As this study is investigating USQ in a holistic sense, in many instances, the subject will represent all stakeholders as ‘subjects in the community’ as suggested by Hung and Chen (2002, p. 250) in their re-conception of an AT system. In other instances, such as in the survey, the student is placed in the position of the subject in order to gain their views and perspectives on their learning experiences.

To clarify the use of AT terminology (Yamagata-Lynch, 2007) in the context of this case study (refer Figure 3.1):

- ‘*subject*’ refers to academic staff, students, instructional designers, or the entire university community according to the context of the activity under investigation,
- ‘*object*’ refers to the ‘problem space’ relevant to each subject (in the case of academic staff, this could be learning outcomes, for designers it could be program effectiveness, for students it could be components of their study processes or learner motivation, and for the university entity it could be the provision of distance education in all of its dimensions),
- the ‘*community*’ is determined by the specific nature of the subject and the object for each activity, and represents the multiple individuals and groups involved in activities related to the object including senior executive staff, administrative staff, academic staff, support staff, student cohorts, family members, work colleagues, etc.,
- the ‘*rules*’ refer to the formal rules, explicit and implicit regulations and policies of USQ, informal practices and conventions, and social norms that constrain actions and interactions within the activity system,
- ‘*instruments*’ (or *tools*) refer to those tangible and intangible elements of the distance education environment that mediate the respective activities including study materials, computers, assessment, texts, language, etc., and
- ‘*division of labour*’ is the horizontal division of tasks between the members of the community and the vertical division of power and status.

The selection of AT framework is consistent with the research paradigms that are most relevant to this study, as it permits:

- an interpretive view by considering the multiple perspectives of the full range of stakeholders in the community,
- a constructivist view by considering individual experiences in relation to teaching and learning, and
- a pragmatic view by exploring real-life activities and mediating factors across an holistic framework.

AT is also consistent with the identification of a case as it allows investigation of individual activities at an holistic level. Although the widespread use of AT as a lens for analysing activity has yielded a range of methods by which it may be employed, it must be studied in real-life practice with researchers as active participants in the process, and ‘necessitates a qualitative approach to analysis’ (Jonassen & Rohrer-Murphy, 1999, p. 68).

3.2.3 Stages of the design

To effectively answer the research questions, a methodical approach was required, working from the broadest context and gradually narrowing down to a more-detailed level. As this study was undertaken within an interpretivist / constructivist paradigm, a logical sequence of research activities evolved so that the research questions could be answered progressively. The research approach incorporates mixed methods and the stages of data collection and analysis are illustrated in Figure 3.2 and include:

- document analysis (ongoing throughout the study),
- semi-structured interviews conducted in three phases,
- web-based survey, and
- focus groups.

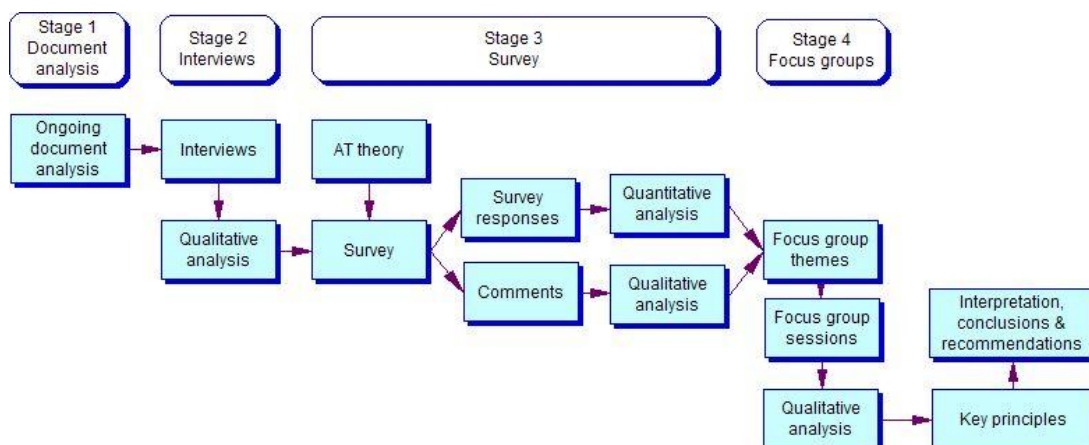


Figure 3.2: Stages of the research design

A summary of the major stages of data collection and analysis is provided below.

Stage 1: Document analysis – ongoing

Process:

A wide range of formal and informal documents was examined on an ongoing basis throughout the study to define the context of the organisational setting, the nature and attributes of the participants in the study setting, and to assist in answering the research questions.

Outcomes of this stage comprise:

- an initial framework within which to proceed to the subsequent stages of data collection and analysis,
- an evolving understanding of the processes and procedures involved in teaching and learning within USQ,
- answers to the research questions, and
- a framework for carrying out semi-structured interviews, the survey and the focus group sessions.

Stage 2: Semi-structured interviews

Process:

Twelve semi-structured interviews were carried out with members of the academic and student community from within and external to USQ in order to identify initial themes, patterns and issues that warranted more detailed exploration.

Outcomes of this stage comprise:

- further answers to the research questions, and
- a framework for carrying out the survey and the focus group sessions.

Stage 3: Student survey

Process:

A web-based survey was undertaken of the postgraduate project management student population to collect qualitative and quantitative data on student attributes and their perceptions of their learning experiences within USQ.

Outcomes of this stage comprise:

- a detailed understanding of the student community,
- a framework for carrying out the focus group sessions, and
- further answers to the research questions.

Stage 4: Focus groups

Process:

Six focus group sessions were held using the NGT, and each focus group explored a specific theme that evolved from analysis of the interviews and student survey.

Outcomes of this stage comprise:

- further answers to the research questions, and

- a set of guiding principles for postgraduate education in project management within USQ.

Table 3.3 provides information on the data collected, the data analysis, the outcomes and approximate timing of each of the research stages.

Table 3.3: Research stages and outcomes

Stage	Research activity	Data collected	Data analysis	Outcomes	Timing
	DATA COLLECTION & ANALYSIS				
1	Document analysis	Formal and informal publications from the case study setting to describe processes, procedures and policies and provide details of participants, in order to answer the enabling questions.	Textual analysis by manual coding and thematic analysis	<ul style="list-style-type: none"> • Themes and patterns • Contradictions • Guidelines for semi-structured interviews, survey and focus groups • Contribution towards answering research questions 	Continuous, ongoing from May 2003 to May 2008
2	Twelve semi-structured interviews with academic staff, support staff and students involved in postgraduate project management distance education: <ul style="list-style-type: none"> • 3 interviews in Phase 1 • 2 interviews in Phase 2 • 7 interviews in Phase 3 	Qualitative textual data from transcripts from recorded interviews	Textual analysis by manual coding and thematic analysis	<ul style="list-style-type: none"> • Themes and patterns • Contradictions • Guidelines for survey and focus groups, and • Development of guiding principles • Contribution towards answering research questions 	May 2003 to December 2005
3	Survey of University postgraduate project management distance education students (entire population of Project Management and other selected programs)	Quantitative and qualitative data from survey	Statistical analysis of quantitative data. Textual analysis of qualitative data by manual coding and thematic analysis	<ul style="list-style-type: none"> • Student demographics • Student attributes • Student perceptions • Student attitudes • Student concerns • Development of guiding principles • Contribution towards answering research questions 	Jan 2006 to December 2006
4	Six focus groups with staff from academic, instructional design, technical support, administrative support and learning support areas and postgraduate distance education students (6-8 participants)	Qualitative textual data from transcripts of recorded focus group sessions	Textual analysis by manual coding and thematic analysis	<ul style="list-style-type: none"> • Themes and patterns • Contradictions • Development of guiding principles • Contribution towards answering research questions 	January 2007 to June 2007

3.3 Methods and techniques of data collection

3.3.1 Collection of data

Data have been collected from multiple sources and recorded, maintaining a chain of evidence throughout the study (Burns, 1998). The large volume of data gathered from multiple sources has increased the validity of the analytical conclusions which can then be tested by others as hypotheses and theories emerge.

This study has been undertaken using methods and techniques consistent with those of grounded theory or constant comparative analysis (Strauss & Corbin, 1994). Grounded theory is most commonly associated with procedural guidelines suggested by Glaser and Strauss (1967) but it is also ‘a general methodology for developing theory that is grounded in data systematically gathered and analysed’ (Strauss & Corbin, 1994, p. 273). The purpose of the study has been to ‘develop theory, through an iterative process of data analysis and theoretical analysis’ (Savenye & Robinson, 1996, p. 1177). An interpretivist/constructivist approach to grounded theory in this study has established and maintained a focus on the subjective meanings ascribed by participants and has been predominantly interested in the views, values, beliefs, feelings, assumptions and ideologies of multiple participants (Creswell, 2002). Consistent with the principles of grounded theory, data has been collected with an open mind and the researcher has continually examined the data for patterns using categories and properties that can be used to build theory that is ‘grounded in the data’ (Creswell, 2002, p. 452).

3.3.2 Role of the researcher

The objective of the research is ‘theory generation’ rather than theory verification and interpretive researchers acknowledge that they may ‘change the situation which they are studying’ and recognise themselves as ‘variables in the enquiry’ (Bassey, 1999, p. 43). In this study, the researcher has allowed data categories to ‘emerge’

from ‘observation, creation and exploration’ by ‘sharing the experience’ without trying to be ‘an objective outsider’ (Bassey, 1999, p. 43). The researcher has constantly taken ‘a view of the other person via introspection and reflection’, and attempted to remain ‘non-judgmental’. The researcher has maintained an open mind and has been ‘immersed in the data; the culture and setting for the study’ (McCann & Clark, 2003, p. 9), and has adopted the role of ‘bricoleur’ or ‘quilt maker’ who has pieced together a ‘set of representations that are fitted to the specifics of a complex situation’ (Denzin & Lincoln, 2003, p. 5). At all times, the researcher has acted in good faith and taken reasonable steps to avoid personal values or theoretical inclinations from unduly swaying the conduct of the research or the findings.

3.4 Stage 1 - Document analysis

3.4.1 Ongoing document analysis throughout study

To provide a boundary for the study, the overall University has been defined as a case study setting. This allows all environmental issues to be explored and examined as factors that influence the nature and occurrence of conflicts and disturbances within that setting. As part of that exploration, a wide range of documents and other artefacts from the setting have been examined on an ongoing basis throughout the study in order to obtain data about, and to understand the organisational setting and the participants in the setting. The nature of the documents and other artefacts examined and findings from their analysis are detailed in Chapter 4.

This study took place over a period from 2002 to 2008 with interviews taking place over 2003 to 2005. Survey data were collected in 2006 and focus group data were collected in January 2007. In mid-2007, the University commenced a major review ‘Realising our Potential’ (ROP) from which many changes within the University occurred (University of Southern Queensland, 2007d), but the effects of those changes are obviously not reflected in data collected for analysis. The effects of the review are discussed in chapter 5 as part of the interpretation, conclusions and

recommendations that flow from this study, with ongoing document analysis taking place almost in 'real time' as changes were implemented.

3.5 Stage 2 - Semi-structured interviews

3.5.1 Use of semi-structured interviews

A gradual understanding of the research problem has grown out of the study through the collection, analysis and development of a detailed understanding of natural data (Krathwohl, 1998). A common method of collecting qualitative data is through interviewing, and a range of interviewing techniques is available (Krathwohl, 1998). Given that the research had already been bounded by the selection of postgraduate project management education in a distance education environment, the most appropriate choice was 'semi-structured' interviews where the questions and sequence are pre-determined, but the nature of the discussion is open ended (Bryman, 2001; Krathwohl, 1998). The author was more interested in the personal understanding, knowledge and insights of the interviewees than in categorising people or events (Rubin & Rubin, 2005).

Qualitative data obtained through interviews are of value as they provide well-grounded, rich descriptions and explanations of processes occurring in specific contexts (Miles & Huberman, 1984). Interviews are valuable in that they allow a formative and incremental approach to refining the problem and more focussed research in a subsequent stage (Krathwohl, 1998). Semi-structured interviews with major stakeholders have allowed a progressive drawing out of the issues until a pattern emerged that could then be explored in subsequent stages. Although the content of such interviews was somewhat unstructured, the process has been rigorous in order to achieve validity for the data collection and analysis and the drawing of conclusions. Semi-structured interviews provided flexibility to modify and refocus subsequent interviews based on the outcomes of previous ones.

The purpose of the interviews was to understand the experience of other people and ‘the meaning they make of the experience’ (Seidman, 1991, p. 3). The main concern was ‘the quality of the analysis rather than...the format of the interview’ (Silverman, 1997, p. 22). The use of semi-structured interviews was a valid approach for the first stage of the research given the limited availability of existing research in this area, the desire to identify relevant concepts and the objective to develop guiding principles for theory generation.

Although data collection through semi-structured interviews represented a single stage of the study design, the interviews were carried out over three phases:

- Phase 1 comprised the first three interviews to explore postgraduate project management training in a broader context, and two of the three interviewees were outside of USQ.
- After preliminary analysis of the interviews in Phase 1 indicated a need for additional data, Phase 2 comprised two additional interviews with experts on the professional needs of project managers, using similar questions – both interviewees were outside of USQ. The early stages of interviews were to understand the context of project management education at postgraduate level and the nature of the students engaged in such study. Analysis of the interviews in Phases 1 and 2 informed a revised set of questions used for Phase 3.
- Phase 3 comprised seven interviews to explore postgraduate project management distance education in the case study setting with all interviewees coming from USQ.

3.5.2 Phases 1 and 2 of interviews

As the same set of questions was used for Phases 1 and 2 of the interviews, they are discussed together in this section. The purpose of the initial interviews was to gain a range of views on the broader topics from participants who played a significant role in aspects of postgraduate distance education in project management, but who were not necessarily constrained by direct participation in the USQ programs. No pre-determined total number of interviews was established initially and interviews were

carried out progressively in two phases until responses indicated that data was repetitive and that a representative range of responses had been obtained. Details of the five interviews undertaken in Phases 1 and 2 are provided in Table 3.4.

Table 3.4: Details of five interviewees in Phases 1 and 2

Phase	Role of interviewee in relation to project management	Code
1	A project management practitioner involved in part-time project management education at another university	PRM-001
1	A part-time postgraduate student of project management within USQ	STU-003
1	A senior academic staff member involved in postgraduate project management education at an interstate university	ACA-010
2	A project management practitioner engaged in corporate project management education and professional training	PRM-002
2	A practising project manager involved in part-time postgraduate project management education, as well as being a senior committee member of a major professional body representing the views of the project management profession on professional practice and development	PRM-003
	No. of interviews in Phases 1 and 2	5

Legend	Role of interviewee
ACA	University-based academic in a teaching or executive role
PRM	Industry-based project management practitioner
STU	Postgraduate distance education project management student at USQ
001 to 009	Code allocated to interviewee for privacy and confidentiality

Phase 1 of interviews

Three interviewees were selected initially for Phase 1 as a purposeful sample to identify key themes. This is consistent with the approach of ‘maximum variation sampling’ to provide an effective strategy for selecting participants (Seidman, 1991). The purpose of the three semi-structured interviews was to reveal both common and contrasting issues and themes to compare with those identified from the literature review and document analysis. At this early stage, it was regarded as important to locate encultured informants (Rubin & Rubin, 2005) and to achieve a balance in the selection of interviewees.

The three interviews in Phase 1 ranged from 50 minutes to 90 minutes and were carried out face-to-face at the workplace of the respective participants. Approval for taping was obtained from each interviewee, and all were offered copies of the transcripts. The conversations were taped consistent with recommended practice (Bryman, 2001) and to allow access at later times to the details of the discussions

rather than relying on summarised notes from the interview, or worse, from memory. To gain a cross-section of views, the three initial interviewees were selected either because of their profile in the professional community (the project management practitioner and senior academic) or as a representative of key stakeholders in the study (the postgraduate project management student). Details of the interviewees have been provided in Table 3.4.

Phase 1 of the interview stage was intended to explore the ‘bigger picture’ view of project management education, postgraduate education and distance education. Consistent with recommended guidelines (Rubin & Rubin, 2005), the initial list was rationalised to eight questions, each one representing a significant topic of the initial research focus, plus one ‘open’ question where the interviewee could suggest any topic of relevance to project management education that he/she thought of importance. Questions were designed to stimulate discussion, and as this was an exploratory stage of the study, interviewees were encouraged to express opinions and views so that the widest range of responses and information was collected. Each interview was approached with the questions indicated in Appendix 1.

The same questions were used as a framework for each of the three interviews, but the background and circumstances of the respective interviewees tended to steer the conversation onto some topics more than others. They drew on personal experience and their professional circumstances as academics, employers, consultants, students and representatives of professional bodies, which allowed all of the interview topics to be covered in some depth during one interview or another.

The interviews were independently transcribed and then checked by the author against the recordings to ensure accuracy. No attempt was made to record gestures, pauses, or other conversational attributes, as these were not seen to be of significance nor importance to the nature of the exploratory research being undertaken. The entire interviews were transcribed to create accurate textual representations of the interviews.

Phase 2 of interviews

Based on the preliminary analysis of the interview data in Phase 1 (see Chapter 4), it was necessary to carry out additional interviews with representatives from two other stakeholder groups in order to give a larger body of data from which consistent themes could be established. This approach is in keeping with ‘theoretical sampling’ in order to achieve ‘saturation’ of data, or collection of sufficient data to reveal consistent themes (Bryman, 2001). In Phase 2, two additional interviews were held and details of the interviewees have been provided in Table 3.4. The two additional interviews were carried out and the taped interviews transcribed in a similar manner to the first three. The additional body of data was analysed in a similar way (see Chapter 4), and the initial themes ‘tested’ against the additional data. This iterative process of data collection, data reduction, data analysis, further data collection, reduction, coding, analysis etc is consistent with the recommended guidelines for qualitative data analysis (Strauss & Corbin, 1994).

3.5.3 Phase 3 of the interviews

As the initial five interviews carried out in Phases 1 and 2 (detailed further in Chapter 4) were structured to provide a broad picture of postgraduate project management education from a range of predominantly external stakeholders, the findings were not intended to provide sufficient information to answer the research questions, and it was necessary to collect further data specifically from members of the case study community who also had expertise in distance education. For this third phase of the interviews, participants were selected to represent a wide cross-section of the University in order to examine the issues at a greater depth, and to gain multiple views on the emerging topics and themes which represented issues to be explored further. Details of the additional interviewees are indicated in Table 3.5.

Table 3.5: Details of interviewees in Phase 3

Role of interviewee in relation to project management	Code
---	------

Instructional designer from the Distance and e-Learning Centre engaged in postgraduate distance education study materials	ACA-001
Instructional Designer from the Distance and e-Learning Centre engaged in development of project management distance education study materials	ACA-002
An Associate Dean with experience in postgraduate distance education in a related management discipline	ACA-005
An Associate Dean with experience in postgraduate distance education in a related vocationally-oriented discipline	ACA-007
A member of the Senior Executive of the University with expertise in postgraduate distance education in professional disciplines	ACA-009
A postgraduate student who has completed MBA studies including a major in project management	STU-001
A postgraduate student undertaking project management studies by distance education although living locally	STU-002
Number of interviews carried out in Phase 3	7
Number of interviews carried out in Phases 1 and 2 (see Table 3.4)	5
Total number of interviews in study	12

Legend	Role of interviewee
ACA	University-based academic in a teaching or executive role
STU	Postgraduate distance education project management student at USQ
001 to 009	Code allocated to interviewee for privacy and confidentiality

Note that actual interviews were not carried out in a sequence that reflects the numerical coding of each interviewee. Participant codes were allocated at the time of identifying potential interviewees, but actual interviews were carried out based on final selection of appropriate participants, availability and convenience.

Similar to the procedures adopted for Phases 1 and 2, interviews were held face-to-face in one-on-one situations in the interviewee's place of employment apart from one instance which was conducted via a teleconference. That conversation was taped professionally using facilities in the Distance and e-Learning Centre at the University. With the permission of the interviewees, all conversations were tape-recorded to allow access at later times to the details of the discussions. Interviews ranged from 45 to 90 minutes, and covered a range of open-ended questions which were slightly different to those for Phases 1 and 2, designed to stimulate discussion about the topics indicated below. As this was an exploratory stage of the study, interviewees were encouraged to express opinions and views so that the widest range of responses and information was collected.

For Phase 3 of the interviews, questions were revised to incorporate the outcomes of the analysis of interviews in Phases 1 and 2 and to focus the discussions on the

identification and exploration of significant and important issues in USQ. Open-ended questions were framed to investigate the attributes of the students, and to identify any disparity between the desired and the actual learning outcomes of postgraduate study in distance education mode at the University (the two sets of questions for the interviews are presented in Appendix 1 for comparison). Revised questions were structured around the AT framework and explored issues relating to the University community, to the rules, regulations and practices, to the resources and tools that were employed in provision of distance education at postgraduate level, and to the respective roles of participants and conflicts relating to the division of labour.

Although the same questions were used as a framework for each interview in Phase 3, the background and circumstances of the respective interviewees tended to steer the conversation towards those issues about which they felt strongly or passionate, especially those that raised issues of concern or where inequities or conflicts (contradictions) existed. The interviewees were able to draw on their expertise, personal experience and their positions within USQ and this allowed all of the interview topics to be explored in considerable depth across one interview or another.

The seven interviews in Phase 3 were independently transcribed and then checked by the author against the recordings to ensure accuracy. Again, no attempt was made to record gestures, pauses, or other conversational attributes, as these were not seen to be of significance to the nature of the study. Detailed analysis was carried out of data collected from the seven additional interviews (see Chapter 4). The findings from the analysis of all of the interviews formed the basis of a survey designed to assist in answering the research questions.

3.6 Stage 3 - Web-based survey

3.6.1 Use of a web-based survey

In order to answer the research questions more fully, it was essential to collect additional data from a broader cross-section of the case study community and to explore the actual experiences of the students who had studied project management at postgraduate level in the actual case study setting. Building on the findings from the interviews, questions were developed to explore the contradictions using an AT framework, and to obtain contextual information about the respondents to the survey. A cross-sectional survey was designed using a web-based questionnaire to obtain predominantly qualitative data on attitudes, beliefs, opinions and practices (Creswell, 2003), plus additional qualitative and quantitative demographic material to build up profiles of postgraduate project management students at USQ. This web-based approach was the most appropriate and effective (Frazer & Lawley, 2000) as:

- *The cost was lower than for most other forms of survey* – in this case, the cost was negligible as it was designed using University in-house software and hosted securely through a section of the University at minimal cost;
- *The time to gain the information was very short* – once designed and tested, the survey was open for less than two weeks, and data was available almost instantly (although obtaining corruption-free data took much longer);
- *The ability to access widely-dispersed students was extremely good* - given that approximately 50% of students to be surveyed were located offshore;
- *The survey could be more lengthy than for other forms* – in this case, approximately ten sections with a total of 86 questions were developed to provide good coverage of the topics relating to AT and data of a demographic nature;
- *Respondent anonymity could be achieved* – in this case, respondents could provide their names or remain virtually anonymous (although with digital technology, it is not possible to remain totally anonymous);
- *There was no researcher bias* - there is no interaction between researcher and respondent during the time to complete the survey; and

- *There was no need for intermediate facilitators* – the survey was designed and tested so that it was easy to understand and simple to complete.

Limitations associated with web-based surveys were addressed in the following ways (Frazer & Lawley, 2000):

- *The need for a simple structure as there was no support on hand to assist in its completion* – in this case, the survey was kept simple by breaking it into four clear sections to obtain personal information about the respondents and another six clear sections on participants' experiences based around the structure of AT;
- *The need to avoid complexity and keep questions relatively simple and clear* – questions were tested and re-tested in pilot situations as discussed below to minimise confusion or misinterpretation;
- *The relatively-low response rates commonly achieved for web-based surveys* – in this case, the response rate was approximately 30% which was seen as good by comparison with similar surveys. To maximise the response rate, a text book was provided by the researcher to be offered as a gift to a randomly-selected respondent in appreciation of the effort in completing the survey.

3.6.2 Design of the web-based survey

The survey instrument was structured in two parts – Part A and Part B. Part A comprised a total of 24 questions and Part B comprised a total of 62 questions as indicated in Table 3.6. The full survey instrument is attached as Appendix 2 (Part A) and Appendix 3 (Part B).

Table 3.6: Structure of the web-based survey

Survey section	No. of questions
Part A	Personal background
A1	9
A2	4
A3	5
A4	6
Subtotal	24
Part B	Distance education experiences
B1	6
B2	13
B3	7
B4	11
B5	15
B6	10
Subtotal	62
TOTAL	86

3.6.3 Part A of the survey

Part A of the survey (see Appendix 2) was designed to obtain data so the circumstances of postgraduate distance education students could be understood and considered in the exploration of their experiences in distance education in project management. Part A of the survey collected data on:

- details of the respondents' backgrounds in order to understand their personal circumstances;
- details on their career and employment in order to understand their professional circumstances;
- details on their educational background in order to understand their experiences with higher education; and
- details on the nature and extent of their experience with distance education; and
- any additional information that respondents wished to make in the form of open comments at the end of each of the four sections in Part A.

A short extract from Part A.2 of the survey to illustrate the nature of the survey instrument is provided in Table 3.7.

Table 3.7: Extract to illustrate Part A of the survey instrument

A.2	Your career background:	
2.1	How would you describe your employment situation during the greater part of your postgraduate studies? Please choose one.	<ul style="list-style-type: none"> • Working full-time • Working part-time • Not working • Other
2.2	How would you describe the industry or industries in which you worked during your postgraduate studies? Please choose as many as are applicable.	<ul style="list-style-type: none"> • Business/management/commerce • Construction/property development • Defence/Defence-related • Education • Engineering/civil/mining/high technology • Health • Information systems/information technology/software • Manufacturing/industry/logistics • Other industry • Not applicable
2.3	How long have you worked in a 'project management' related position or organisation?	<ul style="list-style-type: none"> • Less than 5 years • 6-10 years • 11-20 years • More than 20 years • Not applicable

3.6.4 Part B of the survey

Part B of the survey (see Appendix 3) was designed to obtain data on the students' experiences in postgraduate distance education at USQ, and collected data on:

- the extent to which participants *agreed* or *disagreed* with a series of statements, each of which focused on one aspect of their learning experience at USQ, with each statement being part of a larger group that represented one of the six nodes of the AT framework (subject, object, tools, community, rules and division of labour);
- the extent to which each participant thought the issue addressed by that statement was *important* or *unimportant* in terms of their learning experience at the University; and
- invited students to provide any comments that they wished to add relating to the topics covered in each section.

This approach provides access to the students’ ‘voice’ (Scott, 2006, p. 10) consistent with the views of Scott (2006) who identified the need to more consistently ask students to rate the importance of survey items and not just their perceptions of performance. He highlighted the importance of investing scarce resources on aspects that ranked high on importance and performance rather than those with low rankings.

Each group of statements in Part B reflected one node of the AT framework (e.g. Subject, Rules, Tools, etc.) and each statement comprised a common stem plus a separate statement to explore the respective issues. Table 3.8 provides an example of one set of statements and possible responses in the survey instrument.

Table 3.8: Example of survey statements and possible responses

B.3	The study environment		
	The university has:	What has been your experience to date?	How important do you think this issue is?
3.1	provided teaching staff for each course who have appropriate skills and qualifications	Strongly agree	Of extreme importance
		Agree	Of significant importance
		Indifferent	Of some importance
		Disagree	Of slight importance
		Strongly disagree	Of no importance at all
3.2	enabled you to have sufficient contact with other students		
3.3	enabled you to have sufficient access to experienced industry people from your field of study		
3.4	made adequate allowances for family or personal commitments that may have changed during the course of your studies		
3.5	made adequate allowances for work commitments that may have changed during the course of your studies		
3.6	provided adequate pastoral support to help you deal with personal problems during the course of your studies		
3.7	disadvantaged you by having too many students in the class		
Please comment on any other ways in which the study environment has affected your studies.			
Comment:			

Responses to statements measuring the level of ‘*agreement*’ or ‘*disagreement*’ in Part B were measured on a five-point ordinal Likert scale as indicated in Table 3.8.

This was seen as the most appropriate method to provide sufficient range to identify responses of interest (Frazer & Lawley, 2000), specifically those statements that engendered a high level of disagreement. These were seen as an indication of a disturbance in the student's learning experience at USQ. When analysing the data, instances of '*strongly disagree*' would be of most interest and value to the study. A high incidence of disturbances in relation to a specific topic would suggest an underlying systemic contradiction that could then be explored further in subsequent stages of the study. In order to identify instances of disagreement (rather than instances of agreement), numerical scores were allocated to the respective responses as discussed in Chapter 4. In order to discourage rote completion of the survey responses, some statements were deliberately stated in a negative manner and these responses were scored in reverse as part of the data analysis.

Identification of those responses that indicated a high level of disagreement (or potential disturbance) provides only one dimension of the issue. It was also seen as valuable to identify whether the students regarded those instances as important to them in terms of their learning experience at USQ. By understanding these two dimensions of the specific issue, disturbances of importance could be identified and explored. To capture this second dimension of the potential disturbance, statements measuring the level of '*importance*' in Part B were also measured on a five-point ordinal Likert scale as indicated in Table 3.8. To identify those responses that indicated a high level of importance to the students, numerical scores were allocated to the respective responses, as discussed in Chapter 4.

Consistent with the AT framework, Part B of the student survey was designed to allow:

- analysis of responses to the statements to identify instances of disturbance (indicated by disagreement), and
- analysis of responses to the statements to identify which of those disturbances were regarded as highly important.

In addition, participants were invited to provide personal comments at the end of each group of statements about any situations or issues that had affected their learning experiences. The inclusion of open-ended questions in such surveys creates the potential for identification of responses that fall ‘outside the researcher’s preconceived framework’ (Bolden & Moscarola, 2000, cited in Scott, 2006, p. iv).

Part B of the survey was structured under six headings containing a group of statements, with each group relating to one node of AT as indicated in Table 3.9.

Table 3.9: Mapping of survey questions to AT

Survey question groups	AT node
You as a learner	Subject
Your study objectives and learning outcomes	Object/outcomes
The study environment	Community
Expectations and requirements	Rules
Teaching and learning methods	Tools
Who does what?	Division of labour

After populating each group of statements, the overall list was collapsed to reduce the number of questions to an optimal level. The number of statements had to be sufficient to address the topics, but not excessive (Creswell, 2002; Krathwohl, 1998), and testing of draft surveys suggested that approximately 60 statements represented the desirable limit for Part B. Below that level, there was insufficient scope to explore the necessary dimensions of each node. Above that level, the survey became time consuming and statements become repetitive or it was difficult to distinguish between statements as the topics began to overlap.

The initial groups of statements for the survey were then refined, merged and/or divided so that the final version minimised confusion and misinterpretation, and lengthy statements were shortened and simplified for the sake of clarity. Individual statements were rephrased to ensure that they were clear and that they addressed the specific issues previously identified for investigation. A pilot survey was tested by a group of five respondents from within and outside USQ.

Different approaches to completing the survey form (including a choice between ‘radio buttons’ and ‘drop down selection panels’ to respond to each statement) were

also trialled. A decision was made to use 'radio buttons' for speed of completion, as respondents were required to complete the survey in one sitting, and it was felt that a cumbersome process for filling in responses would lead to a high ratio of incomplete surveys. From the feedback obtained through the pilot session, the statements were refined further and the instructions were clarified to ensure simplicity and to avoid confusion. To further minimise confusion and misinterpretation, a glossary of terms used in the survey was provided at the very beginning of the survey. At the beginning of Part B, a 'sample' statement (unrelated to the research study) and a likely response was provided as an exemplar of how to complete the survey.

3.6.5 The web-based survey instrument

The survey instrument was converted by the Distance and e-Learning Centre (DeC) at the University to suit web-hosting and the final survey was placed on an independent server within the Distance and e-Learning Centre to allow public access without jeopardising the security of the University information systems. As many of the intended participants were no longer enrolled students at the University, access to the survey did not require a username nor a password. Email addresses of the relevant students were provided from student enrolment records as this had been approved by the relevant University Ethics Committee. The students selected to take part in the survey came from a range of programs in business and project management who had studied at least one project management course (subject) in the previous three and a half years (from semester 1 2003 to semester 1 2006 inclusive), and included domestic students and international students. Project management is not an homogenous discipline, and students enrolled in the Master's program come from business, engineering, construction, health, education, ICT, defence, mining, infrastructure and many other sectors. The profiles of students coming from other PG programs such as business, engineering, ICT, etc. correspond with those of students in the PG PM programs so including them in the survey does not distort the study.

Emails were sent to all students who met the criteria, inviting them to access the survey through a website link provided in the email. The survey remained open for a short period of only ten days so that unintended participants would be unlikely to

access the site, complete the survey and thereby contaminate the data. Safeguards were put into place to detect participants who attempted to complete the survey more than once, which two attempted.

Of the 1,313 population of potential participants, 397 attempted the survey (approximately 30%). The large number of respondents provided a good cross-section of students across the programs and individual courses, across nationalities, across geographical locations, and across other dimensions that characterise distance education students studying project management at postgraduate level. The survey could only be completed in one sitting as there was no provision for partial responses to be stored for subsequent access. Clear information was provided in this regard, and most participants completed the survey fully, which reflected on the ease of completing the survey. Where some responses to statements were not provided, this was taken into account when calculating the mean for responses for each respective statement. Although the total number of responses to statements was less than the maximum of 397 in some instances, the impact on the calculation of standard deviation was not seen to be significant.

At the end of ten days, the website and the survey were closed. Being web-based, the results of the survey were extracted from the database by DeC staff and provided to the author in an Excel spreadsheet. Manual checking of the data revealed irregularities in the way that the data had been collated, and DeC reviewed the way that the data was transferred from the database to Excel to ensure accurate data were available for analysis. These data were examined and cleaned (Creswell, 2005) and subjected to statistical analysis using Microsoft Excel and SPSS as explained in Chapter 4.

A majority of students provided comments at the end of each section, many of which revealed strong feelings about their experiences, both positive and negative. These comments were transferred to Microsoft Word files and subjected to manual inspection and analysis, as well as being subjected to computer-based analysis using software programs including Leximancer and NVivo as explained in Chapter 4.

3.6.6 Data capture and data cleaning prior to analysis

The web-based survey collected both ordinal data (as responses in Part B) for which numerical values were substituted as discussed below, and text data (as responses in Part A, and as comments throughout).

Staff from the USQ Distance and e-Learning Centre (DEC) exported the text data from the survey database into an Excel spreadsheet for file transfer and analysis. Data transferred from the survey instrument database were carefully checked to ensure that they were correctly located in the respective cells so that valid statistical analysis could be carried out using SPSS (which is a statistical and data management software program <<http://www.spss.com/spss/>>) for data collected in Part A, and using Microsoft Excel for data collected in Part B. Anomalies were identified and resolved with DeC before undertaking statistical analysis.

3.6.7 Survey data in Part A

Part A contains mostly demographic data and numerical values were inserted for the respective data sets to allow statistical analysis. The demographic data from Part A of the student survey were analysed using descriptive statistics to build up a profile of the student body from which the respondents were drawn.

3.6.8 Survey data in Part B

Part B was structured in six sections and each group of statements represented one dimension of AT covering issues identified from analysis of the interviews. The relationship between the survey structure and AT is indicated in Table 3.10, Each of the six sections in the survey has been given a title that reflects the respective AT nodes, but avoids the specific use of AT terminology to minimise emotive responses to such terms as ‘rules and regulations’.

Table 3.10: Survey sections and AT nodes

Survey section	Section heading	AT node
----------------	-----------------	---------

B.1	You as a learner	Subject
B.2	Your study objectives and learning outcomes	Objective and outcomes
B.3	The study environment	Community
B.4	Expectations and requirements	Rules and regulations
B.5	Teaching and learning methods	Tools and artefacts
B.6	Who does what?	Division of labour

Part B has six sections B.1 to B.6 with each section containing multiple statements, and this provides an holistic framework within which to explore the disturbances from multiple perspectives. Statements in each section are to be interpreted from the perspective of a postgraduate student undertaking project management studies through distance education (as the subject):

- who is engaged in an activity with the *object* of study (by means of distance education),
- who forms part of a *community* (including fellow students, staff from the University, work colleagues, industry practitioners and family),
- who is subject to the *rules* (including regulations, policies, practices, norms and conventions) that apply to that activity,
- who uses a range of *tools* (including study materials, computers, language, software programs, learning technology environments and CD-ROMs), and
- who is engaged in collaborative learning activities that are shared through *division of labour* with members of the community (including academic staff, fellow students, support staff, etc.).

Statements in Part B of the survey reflect the issues identified from analysis of the interviews. They have predominantly been posed as positive statements, although some have deliberately been posed as negative statements to discourage rote completion of the survey responses. Scoring has been adjusted as indicated below for statements posed in a negative sense.

For each statement in Part B, two responses were sought – one related to the level of *agreement* or *disagreement* with that statement, and the other related to the respondent's perception of the level of *importance* of the issue represented by that statement. Respondents were offered a choice of five options for each of their

responses, relating to a five-point ordinal Likert scale (Frazer & Lawley, 2000), and the responses to the statements were given numerical codes for statistical analysis.

3.6.9 Identifying disturbances related to levels of disagreement

In order to highlight instances of *disagreement* with the statements (rather than instances of agreement), numerical scores were allocated to the first component of the response to the statement as indicated below with the highest score allocated to response 5 indicating disagreement with the statement:

1. Strongly agree (score = 1)
2. Agree (score = 2)
3. Indifferent (score = 3)
4. Disagree (score = 4)
5. Strongly disagree (score = 5)

As some statements were deliberately stated in a negative manner to discourage rote completion of the survey instrument, these responses relating to the level of agreement or disagreement were scored in reverse as part of the data analysis so that the instances of 'disagreement' were scored in a consistent manner. High levels of disturbance will always show up as high scores (on a scale of 1 to 5) regardless of whether the statement is worded in a positive or negative manner. For instance, the following statement was scored in reverse as indicated below with the highest score allocated to response 1 indicating agreement with the negative statement:

'The University has imposed restrictive rules and regulations - agree/disagree'.

1. Strongly agree (score = 5)
2. Agree (score = 4)
3. Indifferent (score = 3)
4. Disagree (score = 2)
5. Strongly disagree (score = 1)

As the study is looking for ‘disturbances’, these are revealed where high levels of disagreement are indicated for positive statements, and where high levels of agreement are indicated for negative statements. Scores for the responses by all respondents to the sixty-two statements on the measure of agreement/disagreement were analysed to identify which statements indicated the highest and lowest levels of disturbance (measured on a scale from 1 to 5) around the theme of that statement, and the statements were listed in rank order from 1 to 62. An illustration of the scoring process for both levels of agreement and importance is provided in Table 3.11.

3.6.10 Identifying level of importance of disturbances

Although responses to some statements about the respondent’s learning experience might suggest high levels of disturbance as indicated above, the respondent might not rate that issue as very important, and so it is essential to also identify the issues that students saw as important, which is revealed by the students response measured on a level of ‘importance’ for each response. The data provided by the two responses will be more effective in identifying disturbances than either dimension alone. Responses to the statements in Part B measuring the level of ‘importance’ were also collected using a five-point ordinal Likert scale, and numerical scores were allocated to the respective responses as indicated below where the highest score is allocated to response 5 indicating the highest level of importance:

1. Of no importance at all (score =1)
2. Of slight importance (score = 2)
3. Of some importance (score = 3)
4. Of significant importance (score =4)
5. Of extreme importance (score = 5)

For the level of ‘*importance*’, scores apply to all statements whether negative or positive. High scores for responses from individuals and collectively across all respondents will indicate those aspects of the learning experience that are seen to be important from a student’s perspective.

Scores for the responses by all respondents to the sixty-two statements on the measure of importance were analysed to identify which statements were seen to have the highest and lowest levels of importance (measured on a scale from 1 to 5), and the statements were listed in rank order from 1 to 62. An extract from the spreadsheet showing a sample of how analysis of the survey responses was carried out is provided in Table 3.11 to illustrate the scoring process.

Table 3.11: Sample of indicative scoring of survey responses

SUMMARY ANALYSIS OF DATA FROM SURVEY

Tables below show details of responses to each statement plus ranking							
Statement		Mean-disagree (1 to 5)	Rank (1 to 62)	Mean-import (1 to 5)	Rank (1 to 62)	SD	
Table 1		SECTION B.1 TO B.6 OF SURVEY					
Surv. Statement No.	Variable No.	Variable	1	2	3	4	6
b1_3	51	Disability-friendly USQ study arrangements - agree/disagree	2.82	5			0.76
	52	Disability-friendly USQ study arrangements - importance			3.16	58	1.41

Table 3.11 provides a sample of the scoring of responses to the survey statement B1.3 relating to the disability-friendly aspects of distance education study at USQ. The full statement included in the survey instrument is as follows:

“At the time you commenced your studies, the university has made adequate allowances for any disabilities that may have restricted your ability to undertake studies”

As there are two measures for each statement, each statement appears on two consecutive rows. The respective columns show:

- the survey statement code,
- the variable (statement number),
- a summarised version of the statement, and

- the scores for the following:
 - The mean (2.82) of the scores (on a scale of 1 to 5) for responses received for the level of agreement or disagreement with that statement
 - The ranking (5th) of that statement compared to all other statements for the level of agreement or disagreement with that statement (out of a total of 62 statements)
 - The mean (3.16) of the scores (on a scale of 1 to 5) for the responses received for the level of importance placed on that statement
 - The ranking (58th) of that statement compared to all other statements for the level of importance placed on that statement (out of a total of 62 statements)
 - The standard deviation for the scores for that response.

3.7 Stage 4 - Focus groups

3.7.1 Role of the focus groups

The focus group sessions represented the final stage of data collection and they were structured in such a way as to provide independent and objective scrutiny of the findings through multiple perspectives, providing additional insights into the concepts derived in earlier stages of the analysis. In order to gain the multiple perspectives from appropriate community members, focus groups using a nominal group technique (NGT) brought together diverse groups of people with experience and expertise in distance education for the delivery of vocationally-oriented postgraduate education, both from a student and staff perspective.

It was important to gain consensus on ways in which the research question could be addressed from institutional, faculty and individual perspectives. The principles that represent the outcome of this study are intended to ‘guide’ the activities of a range of stakeholders including students, academic staff, support staff, administrators, and senior executive staff. However, activity cannot be understood or analysed outside the context in which it occurs (Jonassen & Rohrer-Murphy, 1999). It is essential to examine ‘who is engaging in that activity, what their goals and intentions are, what

objects or products result from the activity, the rules and norms that circumscribe that activity, and the larger community in which the activity occurs' (Jonassen & Rohrer-Murphy, 1999, p. 62), and these parts of the activity system were explored by gaining the views of multiple participants.

3.7.2 The nominal group technique (NGT)

Although mostly used in the realms of market research, focus groups have been increasingly used by academic researchers and variations include Delphi groups, group interviews and nominal groups (Bloor & Wood, 2006; de Ruyter, 1996; Jones, 2004; Van De Ven & Delbecq, 1976). In this study, the term focus group is used in a generic sense, and nominal group refers to a specific form of focus group as described below.

The NGT is designed to facilitate collaborative and democratic decision-making (Van De Ven & Delbecq, 1976), and the role of nominal groups was to 'gain data on group beliefs and group norms in respect of a particular topic or set of issues' (Bloor & Wood, 2006, p. 88). Nominal groups were used to gain multiple perspectives on possible solutions for the disturbances and to 'collect shared understanding from several individuals as well as to get views from specific people' (Creswell, 2002, p. 206). The NGT is designed to gain equal contribution from all participants in a non-threatening manner and to achieve this, participants were able to:

- work individually to consider issues of concern and to identify potential solutions, and
- work collectively to analyse the issues and gain consensus on a prioritised list of ways in which the issues could be addressed.

The NGT is designed to 'gain data on group beliefs and group norms in respect of a particular topic or set of issues' (Bloor & Wood, 2006, p. 88). A nominal group is a group in name only (O'Neil & Jackson, 1983) and the activities were frequently carried out individually under quite strict rules established by the group facilitator. Verbal interaction between members was limited except for those steps where group

participation was encouraged in order to gain the widest range of views. The steps carried out in the nominal groups were consistent with the recommendations of de Ruyter (1996) who found that the suggestions generated through the NGT were better in many ways to those generated through conventional focus group techniques. The NGT adopted for this study consisted of the following six steps which are discussed in more detail in a later section:

1. Individual generation of ideas
2. Recording of all participants' ideas (in a round-robin format)
3. Group discussion of all generated ideas (to organize the list and remove duplications)
4. Preliminary vote to select the most important ideas
5. Group discussion of the vote outcomes (including additions and further merging of overlaps)
6. Final voting on the priority of items.

The advantages of using the NGT in this research study included (Jones, 2004, p. 23):

- *The generation of a greater number of ideas than other group processes*
 - this was evidenced by the far greater number of suggestions than had been anticipated;
- *The generation of more creative ideas than other group processes*
 - the individual nature of the activities during certain stages of the process produced a wide range of suggestions reflecting the values, experiences and expertise of the respective members;
- *The ease of interpreting the results* (as ideas were generated, voted on/ranked, and evaluated at the session itself)
 - an approach was adopted to capture the suggestions immediately and these were immediately available;
- *A greater sense of accomplishment for members* (as the results were available immediately after the session)
 - feedback indicated that the participants saw the sessions as valuable and productive;

- *The minimal resource requirements* (a venue, facilitator, whiteboard, paper and pens)
 - minimal costs were incurred; and
- *The comparatively efficient use of time*
 - the duration was relatively short.

The potential disadvantages of the NGT (Jones, 2004, p. 24) to be countered include the lack of anonymity and an individual's need to feel comfortable with other members of the group. These were countered to some extent in the nominal group sessions as most members were highly-respected and experienced individuals forming part of a professional community within the University. Limitations were addressed in the following ways:

- *The limited number of topics and issues that can be covered* (tend to be single-topic sessions)
 - separate sessions were held for each of the six topics to allow exploration of the topic in reasonable depth, and to avoid fatigue;
- *The limitation of idea generation to the meeting itself* (i.e., no opportunity for participants to think about the issue in depth and generate additional ideas in their own time)
 - participants were provided with background material (but not the actual requirements for the session) to allow some prior consideration of the issues but to avoid participation based on preconceived ideas ;
- *The need for participants to feel comfortable with, and remain within, a very structured group process*
 - participants knew at least one other person in the group and comfort levels were achieved quickly with some social interaction and refreshments;
- *The lack of anonymity*, which may limit participants' willingness to express their views
 - the structure of the processes minimised the tendency for individuals to withdraw from the process and encouraged open and honest interaction;
- *The necessity for all members to be capable of, and comfortable with, expressing their ideas in writing and then communicating them verbally to the group*

- this level of comfort was achieved rapidly as indicated above;
- *The time commitment required from participants, and the necessity for them to attend a specific location at a given time*, which may limit participant numbers
 - most nominal group sessions comprised a different mix of participants to minimise the demands on any one individual, and sessions were held at the University where participants were employed to avoid travel;
- *The lack of generalisability of the results to the wider population due to the specific characteristics of the participants* (both in terms of who is nominated to attend, and who agrees to participate)
 - see Chapter 5 for a discussion on the generalisability of the findings; and
- *The limited nature of the data* (i.e. in terms of number of respondents) often requires a follow-up survey or other quantitative methodology prior to making final decisions about an issue
 - the nominal groups were only one component of multiple methods of data collection and analysis.

3.7.3 Format of the nominal group sessions

Each nominal group comprised five to eight people who were selected purposefully to represent respective stakeholders including students, academic staff, support staff and executive staff of the University. In total, six nominal group sessions were held on three separate days over a two-week period with participants as indicated in Appendix 4. Different participants were invited to the sessions based on expertise and experience to benefit from a diversity of views. The nominal group sessions were recorded (by audio) for later transcription and analysis using qualitative data analysis techniques.

As each of the participants was a staff member or student at the University, many of the participants knew each other, but this is difficult to avoid in a case study setting. This was not seen to be detrimental to the process given the nature of the NGT, where participants worked individually on most activities in an environment where no individual participant could dominate the group, and this technique ‘masked the

effects of institutional status and permitted all members present to have their say’ (O’Neil & Jackson, 1983, p. 135).

One of six topics identified from analysis of the survey data was presented at each session of the nominal groups to ensure that the session was completed quickly and effectively within the time frame. The nominal group sessions were held in random order to explore the topics identified from analysis of survey data (see Chapter 4). For the nominal group sessions, the six topics were nominated as ‘strands’ as indicated in Table 3.12.

Table 3.12: Nominal group topics and strands

Nominal group session no.	Nominal group topic	Strand
1	The peer group	C
2	The academic facilitator	B
3	The workplace	D
4	Assessment	F
5	Learning resources	E
6	The learning institution	A

(Source: Refer to derivation of nominal group topics in Table 4.20)

At the commencement of each nominal group session, the facilitator gave a short PowerPoint presentation to explain the context, the background and the progress of the study to that point in time. Participants had previously been sent an electronic copy of some material advising of the structure of the sessions, as well as extracts from students’ survey comments relative to the topic under investigation for that nominal group session. Tape recording facilities were set up in the room to record the entire session, a computer and projection facilities were set up, and participants were provided with writing materials. Each participant signed a consent form agreeing to participate in the nominal group and to allow taping of the session. The form set out the circumstances under which the session would be held and indicated clearly that any member could withdraw at any time. Each nominal group was then held along the following lines, lasting approximately 90 minutes each.

- Step 1: Participants were given time to read a range of students' comments to illustrate their concerns relating to the topic for that session, and then asked to suggest as many creative and innovative suggestions as possible to address a question related to that topic. Participants were reminded that the focus was on postgraduate distance education students studying project management, and invited to list as many creative and innovative suggestions as possible with no consultation with other participants.
- Step 2: Participants were invited one-by-one to indicate one of their suggestions in a 'round-robin' format and these were recorded by the administrative assistant directly into a Microsoft Word table that was projected onto a screen so that the list was visible to all. No comments nor evaluation took place during this process as it was focused simply on recording all of the suggestions generated by the group. In most instances, more than thirty suggestions were generated for the topic under examination.
- Step 3: Participants were invited to discuss the suggestions as to whether any duplication occurred. An individual participant could indicate whether one of their suggestions was a duplicate of another and could be deleted, or was so similar to another that it could be merged with the other one with the agreement of the author of the other suggestion. No evaluation of the suggestions was carried out as the focus was to obtain a comprehensive listing of unique suggestions from the group.
- Step 4: Participants worked individually again to vote on the relative values of the suggestions, with no consultation between participants. Each participant was invited to select the five suggestions that they believed were of most value in addressing the topic under discussion in that session. Each participant was also invited to select the five suggestions that they believed were of the least value in addressing the topic, although this was presented as an optional activity subject to availability of time.
- Step 5: All of the suggestions were transferred to a Microsoft Excel spreadsheet which was projected onto the screen, and each participant read out their five most valuable suggestions in rank order. The highest ranking suggestion from each participant received five points, the next highest received four points, etc. with the lowest ranking of the five selections receiving one point.

The individual scores were inserted into the spreadsheet which automatically calculated the scores for each of the suggestions, and indicated the overall ranking of the suggestions based on their scores. Where applicable, suggestions that had been indicated as being of least value were noted, but were not scored in any way.

Following this step, there were informal group discussions on the outcomes of the process for that topic, but there were no further adjustments to the scores nor ranking of the suggestions. The top ten suggestions for the topic were subsequently listed in rank order and the outcomes (including individual scores) were later checked manually against the recording of the nominal group session which had been fully transcribed, to ensure accuracy of the outcomes. Suggestions below the top ten rankings scored few points and were not considered further.

3.8 Conclusions and summary of the research design

This chapter has provided details of the research design, the methodology, techniques for data collection, and an explanation and justification for the respective stages and phases of the project. The appropriateness of the research methodology to provide answers to the research questions has been justified, and this has dictated the research methods and specific techniques that have been adopted to collect data in an iterative process with the findings of each stage progressively feeding into the successive stage. In summary, the design comprises:

- A document analysis ongoing throughout the study to explore and understand the context of the case study setting, the changing dynamics of the setting, and the roles of the respective participants;
- Semi-structured interviews to explore the respective domains identified for this study, and to gain the views of multiple participants within the University;
- A web-based survey to gain an understanding of the nature and circumstances of the learners, and to identify their experiences in the course of undertaking their studies in a project management program; and

- Nominal groups to explore the nature of those experiences and to generate suggestions used to derive guiding principles which can be used to develop a framework for postgraduate distance education in project management.

Details of the data analysis and results from each stage of the study are provided in Chapter 4.

4 Data analysis, findings and guiding principles

4.1 Introduction and overview

4.1.1 Background

Chapter 3 has described the overall research design, justification of the research methodology for the study, and details of the proposed specific research methods and techniques. This chapter gives details of the successive stages in the analysis of the data, and illustrates how the outcomes of each stage have provided a platform for undertaking the subsequent stage and progressively providing answers to the research questions. Table 4.1 provides a broad outline on how data was analysed for each of the respective research questions to be answered. In this study, ‘thematic analysis’ is defined as a process for exploring and encoding qualitative data to inductively generate a list of relevant themes or recurring patterns (Boyatzis, 1998).

Table 4.1: Data collection and analysis to answer research questions

Research question	Source of data	Type of data	Analysis
1. <i>What are the contextual issues that influence postgraduate distance education for project management in the case study setting?</i>	Documents Interviews Survey	Qualitative	Thematic
2. <i>What are the current pedagogical frameworks, principles and practices guiding postgraduate distance education for project management in the case study setting?</i>	Documents Interviews Survey	Qualitative	Thematic
3. <i>How did the move to distance education frameworks influence the teaching practices and learning outcomes for postgraduate project management students?</i>	Documents Interviews Survey	Qualitative	Thematic
4. <i>What are the characteristics and circumstances of the postgraduate project management distance education learners in the case study setting?</i>	Documents Interviews Survey	Qualitative Quantitative	Thematic Statistical
5. <i>What are the key issues identified by those working in the area of postgraduate distance education in project management and how might these be addressed?</i>	Documents Interviews Survey Focus groups	Qualitative	Thematic
6. <i>What are the emerging pedagogical frameworks in postgraduate distance education for project management in the case study setting?</i>	Documents Interviews Survey Focus groups	Qualitative	Thematic

The major stages of data collection and analysis as discussed in Chapter 3 are as follows:

- *Stage 1: Document and artefact analysis (ongoing throughout the study);*
- *Stage 2: Semi-structured interviews;*
- *Stage 3: Web-based survey; and*
- *Stage 4: Focus groups*

4.1.2 Data analysis techniques

Analysis of data was carried out iteratively throughout the project as consecutive flows of:

- data reduction,
- data display, and
- conclusion-drawing/verification (Miles & Huberman, 1994).

Data has been coded, summarised, documented and paraphrased in order to reduce the vast amount of data to a manageable level taking care to ensure that critical dimensions are not lost during the reduction processes (Miles & Huberman, 1994). Data has been collected from multiple sources using multiple techniques and has been represented in many ways including hard copies, digital recordings, personal notes, diagrams, tables, spreadsheets, memos, emails, reports and presentations to create an ‘organised, compressed assembly of information that permits conclusion drawing and action’ (Miles & Huberman, 1994, p. 11). This has allowed ongoing analysis of data both manually and through the use of computer-based software programs. Graphical representation of raw survey data and analytical findings has allowed patterns to emerge and conclusions drawn from one stage have been progressively confirmed or disproved as part of subsequent stages of data collection and analysis consistent with the views of Miles and Huberman (1994).

Analysis has been carried out manually and using computer-based software programs such as Leximancer, NVivo and SPSS in order to ‘reduce analysis time, cut out much

drudgery, make procedures more systematic and explicit, ensure completeness and refinement, and permit flexibility and revision' (Miles & Huberman, 1994, p. 44). As data are predominantly qualitative, this study mostly involves words which are 'fatter than numbers and have multiple meanings' (Miles & Huberman, 1994, p. 56).

Meaning has been generated by noting patterns and themes and clustering them, making metaphors, identifying contradictions, subsuming the particular into the general, finding relationships between variables, building a logical chain of evidence and making conceptual and theoretical coherence of the findings (Miles & Huberman, 1994). Steps to ensure the quality of the research outcomes are discussed in Chapter 3, and include triangulation which is achieved by collecting data from multiple sources and through multiple methods (Denzin, 1988), and by bringing multiple perspectives to the examination of the data analysis findings through the focus group sessions.

4.2 Stage 1 – Analysis of documents and artefacts from USQ

One of the intermediate aims of this study is to answer the questions:

What are the contextual issues that influence postgraduate distance education for project management in the case study setting?

What are the current pedagogical frameworks, principles and practices guiding postgraduate distance education for project management in the case study setting?

How did the move to distance education frameworks influence the teaching practices and learning outcomes for postgraduate project management students?

Chapter 3 has provided an explanation and justification for the approach to use the University as an exploratory case study setting, accessing individuals who provided insights into the critical issues associated with the provision of distance education.

The postgraduate programs in the case study are housed in the Faculty of Business within USQ. As the offering of academic programs involves contributions from academic, technical, administrative and support staff from across the University, the boundary of the case study setting is defined as the University itself in order to explore and understand the full range of possible mediating influences on the student learning experience. Analysis of documents and artefacts sourced from USQ has progressively been undertaken throughout the course of the study. USQ is a dynamic environment and some aspects have changed over the duration of this study as a result of organisational restructure. The discussion below was current at the time of writing, but some aspects will have changed over the latter half of 2008, and may not be fully reflected in comments and conclusions below. The findings at the time of writing are presented below under the following topics:

- Background of the University
- University vision, mission and values
- Rules, regulations and policies
- Learning and teaching support
- Academic programs, courses and modes of study
- Expertise in distance education
- Assessment policies

4.2.1 Background of the University

In the Australian higher education context, USQ is one of the “new” universities, evolving from an Institute of Technology through a College of Advanced Education before achieving University status in 1992 (Postle & Ellerton, 1999), and a brief summary of the history of USQ is provided in Table 4.2:

Table 4.2: Summary of key dates in USQ history

Year	Event
1960	Darling Downs University Establishment Association established in Toowoomba with strong local support.
1967	Queensland Institute of Technology (Darling Downs) opens as a technological institute.
1969	External (correspondence) teaching commences.
1971	Institute granted CAE status as the DDIAE. DDIAE becomes the first tertiary institution to introduce a year-round calendar of teaching.
1973	First professional degree courses accredited.
1974	School of Arts emerges and introduces Aboriginal Studies.
1976	Last intake of post-year 10 students in engineering occurs.
1977	External Studies Department (later DECE) established. External enrolments grow rapidly. Innovations included: Central administrative model, Outreach services, RLO Network. A range of applied research Centres are active.
1981	The Institute's involvement in teaching overseas students in their home country by external studies begins through an arrangement with USP.
1985	Overseas external provision begins to Hong Kong and Malaysia.
1986	The Institute offers its first Masters program. A cultural exchange program is established with Hubei University in the People's Republic of China. The international program is expanding rapidly - the DDIAE has more overseas fee-paying students at this time than are enrolled at all other Australian tertiary institutions combined.
1988	On-campus teaching commences in Hervey Bay.
1990	The Institute becomes the University College of Southern Queensland, preparing for full University status under the 'sponsorship' of UQ.
1992	USQ is created. A new faculty-based structure is adopted and research is expanded. Capital developments to the value of over \$100m are to occur over the next decade.
1994	The DEC system is wound down across the sector. USQ loses its protected status in distance education delivery.
1996	A purpose built facility is opened at USQ: Wide Bay. RLO Network is extended across eastern Australia.
1997 - 2003	USQ undertakes a wide range of initiatives to enhance its position in flexible delivery and e-learning, and in core areas of research. USQ named joint winner of the Good Universities Guides' 'Australia's University of the Year 2000-2001'
2004	Master of Project Management program commenced USQ
2006	USQ Springfield campus opens and offers postgraduate project management studies in "Intensive Workshop" mode

(Source: adapted from Lovegrove, 2003)

The institution was redesignated as a university in 1992 (Regulation 5.6.3.4 in University of Southern Queensland, 2007q), and has changed significantly since that time 'building its research and postgraduate programs, expanding its international profile, and growing as a multi-campus institution' but it also claims to have 'retained its foundation values of putting the student first, building employment readiness in its graduates and building community' (University of Southern Queensland, 2007q, n.p.). Two of the postgraduate programs providing project

management studies, and therefore of significance to this study, are the Master of Business Administration and the Master of Project Management. Both of these programs are offered through the Faculty of Business, which is the largest faculty at USQ and therefore has a significant impact on development of teaching practices at USQ (University of Southern Queensland, 2006).

USQ is now a multi-campus university with a well-resourced main campus in Toowoomba, approximately 150 kilometres west of Brisbane (the capital city of the Australian State of Queensland), and has student support offices throughout Australia and other countries where awards programs are offered. There are also campuses at Hervey Bay (approximately 200 kilometres north of Brisbane) serving the Fraser Coast region and a new campus at Springfield (on the border between Brisbane and the nearby city of Ipswich), allowing USQ to penetrate the added markets of Brisbane and surrounding areas in south-east Queensland where the population exceeds two million people and is growing rapidly. With total staff numbers in the order of 1400, USQ has an annual turnover of approximately \$150 million and has achieved a small surplus in most years, in spite of an ambitious capital works program over the last decade.

4.2.2 Student expectations

Chapter 3 has provided a profile of the postgraduate student body enrolled in project management studies at USQ, characterised as mature-aged students undertaking formal academic studies whilst simultaneously managing professional and personal commitments that conflict with those studies and contribute to the underlying contradictions in the learning setting. The data collection has involved students from a wider range of programs than just project management and has therefore provided a broader perspective on the disturbances that confront postgraduate students engaged in professional education through coursework-based distance education programs.

In the tertiary education sector, students are seen as primary consumers and that they 'are becoming more conscious of their customer rights and of gaps between their expectations of service delivery and the reality of that service' (Darlaston-Jones et

al., 2003, p. 1). A survey by Darlaston-Jones (2003) indicated that conflicts arise from the difference between students' expectations of university academic and administrative staff and their reality, with expectations being considerably higher. Students have 'felt ignored by lecturers and inhibited about contacting them even about academic issues' (Darlaston-Jones et al., 2003, p. 2), and with students describing staff as 'uncaring and indifferent to the needs of the students' (2003, p. 2). There is an emphasis on the need for institutions to establish connections with students because they frequently anticipate an environment substantially different to what they experienced and this gap can lead 'to feelings of isolation, dissatisfaction, and discontent resulting in the student withdrawing from university' (Darlaston-Jones et al., 2003, p. 2).

Students are seen as consumers who are looking for a wider range of products tailored to their individual needs, relevance, value for money and who want it when they want it (Rowntree, 1992, cited in Forrester and Parkinson 2006). They expect that all aspects of their learning resources, their learning activities and assessment will relate directly to their professional lives and their workplace practices. They expect technology to be an integral part of their learning experience in order to 'improve learning outcomes by appealing to a variety of learning styles' (Birch, 2006, p. 351; Sankey & St Hill, 2005) but not to adversely impact on their learning activities.

4.2.3 Lack of flexibility

Although University-wide rules, regulations and policies on matters are prescribed in the University Calendar, there is interpretation and application of policies at faculty and at individual levels, leading to an inconsistent learning environment for students. Views on what constitutes a flexible learning environment differ widely and can include distance education, open learning, resource-based learning, technology-enhanced learning and more recently networked learning (Postle & Sturman, 2003a; Steeples & Jones, 2002). The University's Cross-Divisional Efficiency Initiative (CDEI) (Lovegrove, 2007c) has evolved into the 'Realising our Potential' (ROP) program (University of Southern Queensland, 2007c) with a focus on cutting of

programs, courses and those responsible for their delivery, in an endeavour to ‘do less’ but to ‘do it better’ (Baker, 2007b).

The Vice-Chancellor established an objective for the University in terms of building its future identity as ‘the University that best assists students to live fulfilling lives by offering maximum flexibility regardless of where students live’ (Lovegrove, 2007c, n.p.). As part of this major review, the Vice-Chancellor has asked the question ‘If not distance, what? Flexibility’ (Lovegrove, 2007d, Slide 12 of 27), and the answer was provided in terms of ‘*Maximum flexibility* to suit students’ needs regardless of location’ (Lovegrove, 2007d, Slide 13 of 27). A working definition of flexibility by the Pro-Vice Chancellor (Learning & Teaching) is provided suggesting that ‘Flexible learning offers students choices in what to learn, how to learn, how their learning is assessed and where and when the learning occurs’ (Lovegrove, 2007d, Slide 14 of 27). Postle and Ellerton (1999) have previously identified organisational and administrative structures that have hindered the achievement of the flexibility to which USQ aspires, and true flexibility remains just as elusive. Issues that contribute to the underlying contradictions include:

- a focus on quantitative rather than qualitative issues, exemplified by rigid allocation of workload allocation for various teaching activities regardless of discipline, program, course or stage of students’ studies, and which ‘encourage an industrial model of service that is out of step with the ways of working with students implied in a flexible delivery environment’ (Postle & Ellerton, 1999, p. 5); and
- a focus on fixed times for enrolment, commencement of trimesters, and submission dates for assignments and examinations.

Sturman, Richardson and Postle (2003) have previously suggested that increased opportunities for interaction through advances in educational technologies have provided a context where it is ‘possible for students to enter and exit courses when and how they wish’ (2003, p. 29). This approach is technically feasible as all materials, readings and assessment items are available at any time, and students are able to access the learning environment at times of their choosing, but flexible

models of this kind come at a considerable cost and ‘place great demands on staff’ (2003, p. 29). The danger arises when administrative focus is on financial returns to be derived from the ‘massification’ of higher education (Kirkpatrick, 2007, p. 1) ‘which has resulted in increased student numbers, and a more diverse student population, with varied and markedly different student expectations of the university experience’ (2007, p. 1) rather than on the pedagogical issues.

USQ offers award programs at undergraduate and postgraduate level in on-campus, off-campus and online modes of study. Students can choose any available mode of study on a course-by-course (subject) basis, and USQ maintains a constant theme of providing ‘flexible delivery’ and giving students ‘what they want, where they want it, when they want it, in their style, in their place, in their time’ (University of Southern Queensland, 2008a, n.p.). USQ, like many distance education providers, has difficulties in defining and describing modes of study whereby students do not attend traditional on-campus lectures, and there are examples of the use of many terms such as distance education, external studies, flexible delivery, blended delivery, hybrid, online, distributed learning, networked learning, and e-learning, the meanings of which lack consensus and clarity.

During the course of this study in 2007, a new description for USQ’s flexible learning model was introduced as ‘fleximode’ (Lovegrove, 2007b; Sankey, 2008) which proposed to offer all students access to the same learning environment regardless of mode. At the time of writing in 2008, the scope and application of fleximode was still not defined, and in the author’s experience, this additional complexity of offerings adds to the workload of academic and support staff and represents a frequent source of conflict and disturbance. Prior to the introduction of fleximode, staff were already raising concerns about the complexity for staff and students because of multiple modes. One academic interviewee in this study indicated that ‘...it’s not only staffing that’s going through a transition of the different combinations and permutations and what it means for them, their own competencies, their own learning curves, their own workloads, etc. but also the students’ (Interviewee ACA-005). At the Springfield campus, the intensive workshop mode condenses fifteen weeks of lectures and tutorials into six days with the

involvement of industry-based guest lecturers. This mode of study is not well understood by staff or students, and the modes of study are explored in the study.

In 2007, the University had approximately 26 000 students, of which there were approximately 9 000 international students from more than 120 countries, and of these about 6 000 studied while based in their home countries (University of Southern Queensland, 2006). Postgraduate students currently represent approximately 25 to 30% of all student enrolments with that percentage growing over recent years, and external students represent approximately three-quarters of all enrolments, with that percentage also increasing over recent years (University of Southern Queensland, 2006). As the percentage of on-campus enrolments diminishes, the importance of distance education to the University is reinforced. In recognition of this trend, USQ indicates that it ‘intends to remain flexible to meet the needs of learners throughout Australia and internationally’ (University of Southern Queensland, 2008a). Perceptions of USQ’s expertise in distance education are high both internally and externally, based on awards received in recent years as detailed on their website:

‘USQ was awarded the [Commonwealth of Learning Award of Excellence](#) for Institutional Achievement at the third Pan-Commonwealth Forum on Open Learning, in July 2004. Other awards include the Joint Winner of the [Good Universities Guides' University of the Year: 2000-2001 Award](#) and in 1999, USQ won the Inaugural [Award for Excellence](#) from the International [Council for Open and Distance Education \(ICDE\)](#), as a world leader in 'dual mode' (on-campus and off-campus) education’ (University of Southern Queensland, 2008a, n.p.).

4.2.4 Teaching and learning framework

Previous studies have indicated the increasing scope and complexity of the work of an academic in the University, such as ‘greater concentration on linkages with the

world of work and responsiveness to the demands of industry and the professions’, an ‘increasing demand to learn off-campus’, ‘increased levels/quality of interaction through computer mediated communication’ and ‘increasing emphasis being given to lifelong learning’ (Postle, 2004, p. 1). In addition to the disturbances created by the adoption of distance education, other conflicts emerged as a result of the transition from College of Advanced Education to university status in the early 1990s where:

‘The attainment of university status presented some identity problems for all faculties as they attempted to articulate differences between what was done [successfully] as a College of Advanced Education and what should be done as a fledgling university. The adoption of distance learning as a significant component of its teaching and learning in 1986 further compounded this dilemma particularly in relation to the nature and focus of teaching and learning’ (Postle, 2004, p. 3),

USQ has recognised and acknowledged the existence of contradictions in the core area of learning and teaching and has attempted to address them through:

- establishment of an overarching committee with responsibility for quality of teaching and learning outcomes;
- establishment of a Learning and Teaching Support Unit (LTSU) to improve learning and teaching, and to benefit from the Commonwealth Government Learning & Teaching Performance Fund, from which USQ has yet to receive funds;
- allocation of funding for innovation in teaching;
- development of a strategic, coordinated staff development program; and
- rationalisation of academic and administrative responsibilities for academic outcomes (Lovegrove, 2004b).

4.2.5 University vision, mission and values

At the time of writing in 2007, USQ's Vision, Mission and Values statements reflected 'the institution's roles, approaches and aspirations in the new century' (University of Southern Queensland, 2007k, n.p.) where:

- USQ Vision represents a statement of what USQ is aspiring to become;
- USQ Mission describes what USQ exists to do; and
- USQ Values 'captures the philosophy of USQ which shapes its approach to its task' (University of Southern Queensland, 2007k, n.p.).

Disturbances arise from conflicts between the stated vision, mission and values of USQ (its 'espoused theory') and the actual practices of the organisation and individuals within USQ ('theories in use') (Argyris & Schon, 1974). At the time of writing in 2007, the stated Vision of the University (University of Southern Queensland, 2007k) was to be 'Australia's leading transnational educator', although the implications of the term 'transnational' for the University were difficult to define:

'The University of Southern Queensland is a learner-focussed and community-oriented university which is committed to flexible distance and on-campus education. It is highly regarded for its learning and teaching excellence, focussed research and enterprise, multiculturalism and effective engagement with the community. The University will be acknowledged by graduates, governments and industry as Australia's leading transnational educator, delivering programs, characterised by currency and relevance, through a network of university cities within and beyond the nation. It will continue to improve learning and increase access through innovative pedagogy and the creative use of technology' (University of Southern Queensland, 2007k, n.p.).

At the time of completing the study in 2008, the University's Vision had changed to one of being 'recognised as a world leader in open and flexible higher education' (University of Southern Queensland, 2008d, n.p.), and 'transnational' was no longer

included as a descriptor, indicating an ongoing struggle to define the defining essence of the University.

Throughout the latter stages of this study in early 2008, the Mission of the University was to ‘develop, enrich and serve its regional and global communities’ (University of Southern Queensland, 2007k, n.p.). At the time of completion of the study in late 2008, the Mission had changed to one that would ‘enable broad participation in higher education and to make significant contributions to research and community development’ (University of Southern Queensland, 2008d, n.p.). However, much of the discussion in Chapter 5 of this study relates to the earlier mission statement. In pursuit of its previous Mission, the USQ had committed to the following values and these were explored as part of this study:

- *‘supporting life long learning, scholarly excellence, intellectual integrity and academic freedom*
- *supporting research and development that contributes to new knowledge and a better quality of life*
- *responding to changing needs without compromise to quality*
- *supporting real innovation rather than change for change sake*
- *ensuring participatory and inclusive decision making*
- *appreciating the importance of open engagement and meaningful partnerships*
- *recognising the contribution made by individuals*
- *remaining accountable and transparent*
- *ensuring an environment that is safe, supportive and stimulating*
- *supporting social justice and multiculturalism and appreciating the value of difference and diversity*
- *caring for the individual through approaches that are fair, inclusive and equitable*
- *improving the quality of its operations as a learning organisation*
- *managing a sustainable development into the future*
- *providing service of high quality’* (University of Southern Queensland, 2007k, n.p.).

At the time of completion of this study, these had been replaced by ‘core values’ (University of Southern Queensland, 2008d) that are collapsed into a much smaller set of more philosophical concepts:

- *Respect for the individual*
- *Success for students*
- *Social responsibility*
- *Free intellectual inquiry*
- *Excellence, innovation and creativity (University of Southern Queensland, 2008d).*

As an indication that it is sometimes difficult to achieve aspirational goals, USQ was one of just eight universities in 2007 that received no funds under the LTPF (Learning and Teaching Performance Fund) program (Baker, 2007a) made available by the Australian Government Department of Education, Science and Training (DEST) based on a review of the performance of all accredited Australian universities in 2006. The USQ Deputy Vice Chancellor (DVC) (Scholarship) asked academic staff to ‘take an honest look at what this means for our teaching and assessment practices’ (Baker, 2007a, n.p.) and indicated that there is a potential impact on the University’s reputation and that ‘USQ has a proud history of quality teaching, and has a reputation in the sector as a strong educational institution, particularly with regard to our quality systems for distance education’ (Baker, 2007a, n.p.). The DVC indicated that ‘not all regional universities missed out, nor did the distance providers. Hence, *we must acknowledge that our students are telling us something important relative to other universities and relatively across disciplines within the University*’ (Baker, 2007a,n.p., italics added).

The last sentence in the paragraph above captures the essence of this study as it reflects the circumstances that precipitated this study originally, well before the LTPF review. As part of the data collection in the student survey of this study, USQ students were indicating at that time that they were not satisfied with their learning experiences and those attitudes were subsequently reflected in the DEST review. The DVC went on to concede that ‘one of the greatest attributes of USQ is the undeniable

dedication of staff to their teaching and to their students' but suggested that 'dedication does not automatically breed quality' (Baker, 2007a, n.p.). His challenge was for all academic staff 'to work together (in discipline, faculty, course or program groups) to steer all of that hard work, passion, commitment, and energy into the highest quality learning & teaching we can' (Baker, 2007a, n.p.), and the objectives of this study are consistent with the challenge set down by the DVC.

Those espoused values of 'putting the student first' and 'building community' have been progressively challenged and tested, as a focus on financial issues was suggested by the initial 'Cross Divisional Efficiency Initiative' (Lovegrove, 2007c) to bring about organisational change across the University. Since the commencement of this research study, most of the senior management of the University, including the Chancellor, the Vice-Chancellor, Deputy Vice-Chancellors, Deans and senior administrators have changed, replaced in most cases with people from outside the University, leaving one Deputy Vice-Chancellor representing the culture and values of an earlier phase of the University's history. From details provided at the time of their appointments, new senior management team members also appear to have little, if any, history nor experience with distance education. Perceptions that present members of senior management have a lesser understanding of the issues associated with distance education than previous members of senior management have surfaced in interviews and may contribute to the disturbances explored in this study.

Like many regional universities that were created during the Dawkins' era (Aungles, 1997; Postle et al., 2000), the University has struggled to find its niche role in the higher education sector. As Postle and Ellerton (1999) indicate in a quote from a University website that no longer exists, 'in order to present itself as a viable alternative to traditional universities, and to provide opportunities for students from a wide range of backgrounds, the University has responded aggressively to the challenges of distance education and international education' (1999, p. 2), and this is epitomised in the statement below taken from the Vice-Chancellor's Home Page in 1999. This study will suggest that the key part of the promise below by the then Vice-Chancellor (Professor Peter Swannell) to deliver total student flexibility has not been achieved after many years, and still remains an aspirational goal of the current

senior leadership committee as reflected in the University's vision, mission and key objectives discussed above:

The University of Southern Queensland is a leader in the flexible delivery of services to students and members of the general community. The University believes that flexible delivery is about giving people WHAT they want, WHERE they want it, WHEN they want it, IN their style, IN their place, IN their time. We are REGIONAL, FLEXIBLE and INTERNATIONAL' (Postle & Ellerton, 1999, p. 2).

This situation may worsen in the near future as a recent study into Australian tertiary education recommended that 'the Australian Government commission a study to examine the feasibility of a new national university for regional areas' (Bradley, Noonan, Nugent, & Scales, 2008, p. xx)

4.2.6 Rules, regulations and policies

The University's regulations are set out in the University Calendar which is 'the definitive source of current policy and procedural documentation relating to the governance and management of the academic affairs of the University' (University of Southern Queensland, 2007p, n.p.). This resource attempts to prescribe and codify the minutiae of policies and procedures that determine or influence the behaviour of individuals, disciplines, departments, schools and faculties of the University. The ever-increasing focus on processes over outcomes has the potential to de-personalise the working environment and to have a counter-productive effect on the organisational culture. This has the potential to lead to a 'work to rule' mentality eventually and stifle the 'community' culture and student focus that has characterised the University (Kenny, 2008). Rigid 'work allocation' formulae prescribe the maximum number of hours that will be recognised for specific activities (for example, student consultation) and that does not differ from undergraduate to postgraduate, nor from on-campus to distance education. Such a prescriptive approach has the potential to discourage academic staff from making themselves

available to students in person or online so that they can meet prescribed obligations in other areas of their duties, and is explored as part of this study.

4.2.7 Learning and teaching support

In response to a federal government policy relating to university funding tied to the level of support available for students and staff, the University established the Learning and Teaching Support Unit (LTSU) in early 2005 during the course of the study. The LTSU ‘aims to develop and promote excellence in learning and teaching through effective initiatives and appropriately targeted activities for both students and staff’ (University of Southern Queensland, 2007j, n.p.). The LTSU was created by the dissolution of other elements of the University community such as components of the Distance and e-Learning Centre and combining them into a single organisational entity. Its role continues to evolve, but from the author’s personal experiences, an increased separation between instructional designers (who previously provided support to academic staff through the Distance and e-Learning Centre for curriculum development) and academic staff on a ‘user-pays’ basis has discouraged the involvement of instructional designers in the development of teaching materials by academic staff with no educational background, and represents a potential source of conflict within the academic community.

4.2.8 Academic programs, courses and modes of study

Details of the programs and individual courses (subjects) offered by the University are set out in the official online Handbook (University of Southern Queensland, 2007n) as well as in individual course specifications (University of Southern Queensland, 2007a) which detail the nature and extent of the mutual obligations of both parties. During the latter stages of this study, the University was in the midst of major organisational changes through its Cross Divisional Efficiency Initiative (CDEI) (Lovegrove, 2007c) to ‘identify a range of areas where efficiencies may be made with a view to minimising duplication of service delivery’ (Tanzer, 2007). This was to be achieved through:

1. Program rationalisation and renewal
2. Curriculum revitalisation
3. Technology-Enhanced Learning
4. Management of students across the University

This initiative has had a profound impact on the University through its focus on administrative solutions for academic and pedagogical problems (Dearman, 2003; Kenny, 2008).

4.2.9 Expertise in distance education

The University has achieved significant awards and accolades at national and international levels, primarily in regard to its expertise in distance education (University of Southern Queensland, 2005, 2007i), with claims that it ‘has positioned itself at the forefront of modern delivery methodologies and this has only been achieved through the goodwill, commitment and skills that University staff and students bring to their work’ (University of Southern Queensland, 2007o, n.p.). The momentum gained from those early efforts appears to have been lost as there appears to have been a reduced focus on research into open and distance education, as suggested by the failure of the University to obtain any funding as part of the Australian Government’s 2007 Learning and Teaching Performance Fund (Department of Education Science & Training, 2007).

The University’s current Distance and e-Learning Centre (DeC) has historically provided a range of services to meet the needs of staff involved in teaching and learning activities across the University (University of Southern Queensland, 2007e). In the late 1980s and early 1990s, Distance Education Centres were established in seven Australian universities ‘to act as resources and service centres to the Australian higher education system’ (Reid, 2005, p. 1). This was seen ‘as a means by which isolated and ‘second chance’ students could access higher education’ but the ‘federal funding of these centres was short-lived, ending in 1994 because of policy

developments and changes in technology that reduced the need for universities to rely on a specialist center' (Reid, 2005, p. 1).

DeC services include 'the development, production and distribution of quality learning resources and an integrated range of support services for...staff' (University of Southern Queensland, 2007e, n.p.) and for students who are dispersed throughout Australia and overseas (University of Southern Queensland, 2007l). The role of DeC has significantly changed since the commencement of the LTSU due to political and funding policies of the Australian Government, and it has reduced its previously high profile in the professional and research arenas associated with open and distance learning. There is limited formal involvement with organisations such as the International Council for Open and Distance Education (ICDE), Open and Distance Learning Association of Australia (ODLAA), and the Australian Council for Open and Distance eLearning (ACODE), with the Director of DeC announcing in 2007 'major changes at USQ which have forced me to re-think USQ's ongoing role in managing the ACODE Secretariat and my own role as President' and that '...I must reluctantly inform you that I will not be standing for President in the upcoming elections nor will USQ be bidding for the ACODE Secretariat' (A Smith, 2007, n.p.). With the withdrawal by USQ at an organisational and individual level from such organisations, the profile of the University as a global and international leader in open and distance education is likely to be significantly reduced.

On-campus, external and online modes of study are offered to students on a course-by-course (subject) basis providing flexibility which the University suggests 'allows students to live and work where they choose, and means that you can study where you want and when you want' (University of Southern Queensland, 2007g, n.p.). Students are offered the opportunity to 'choose different modes of delivery for different periods of their study'. The University purports that 'flexible delivery is about giving people what they want, where they want it, when they want it, in their style, in their place, in their time', and suggests that it is 'regional, flexible and international' (University of Southern Queensland, 2007q, n.p.). Members of the senior University executive see the University as 'the University that best assists students to live fulfilling lives by offering maximum flexibility regardless of where

students live” and by offering ‘genuine excitement in terms of the Student Learning Journey that USQ is able to provide’(Lovegrove, 2007c, n.p.).

Although the University has maintained for almost a decade that it offers flexibility to postgraduate distance education students in the way that they can undertake their studies, students’ personal and professional circumstances appear to have been ignored in favour of administrative convenience where ‘the focus is more on the use (or misuse) of "network technologies" than on the potential of these technologies to facilitate teaching/learning processes’ (Postle & Ellerton, 1999, p. 3).

USQ transitioned from a predominantly face-to-face model to a dual-mode model during the 1980s and 1990s as part of its vision to be a leader in distance and international education (Taylor & Swannell, 2001). Through a financial restructure, USQ became an ‘alpha-customer’ (Olsen, 2001) and took an equity position in NextEd Pty Limited, but it was acknowledged that this was not “without its pedagogical and logistical challenges’ (Taylor, 2001b, p. 6), and required ‘leadership at all levels, not least from the senior management’ (p. 8).

In a study by Postle et al. (2003), staff and students ‘suggested that the introduction of online education had produced anomalous conditions, that is, a violation of their expectations surrounding teaching and learning’ (Postle, Sturman et al., 2003, p. 2) and that these ‘related to three major areas: curriculum design, curriculum implementation, and teacher and learner roles’ (2003, p. 2). Staff and students ‘expressed concern that pedagogical imperatives might be taking second place to commercial interests’ (Postle, Sturman et al., 2003, p. 2) as USQ strove to become ‘an e-university for the rapidly emerging e-world’ (Taylor & Swannell, 2001, p. 8). Taylor and Swannell conceded that if ‘the power of the increasing array of new technologies is to be exploited in higher education, an appropriate organisational development strategy needs to be devised and implemented to bring about necessary institutional reconstruction’ (Taylor & Swannell, 2001, p. 10).

That organisational development strategy is still not well defined in 2008, at which time USQ was in the midst of ‘Realising our Potential’, a broad program for

rationalisation of all academic and administrative facets of the University. This rationalisation program was initiated by the Senior Leadership Committee partly to achieve financial viability by addressing issues in relation to Corporate Services, Facilities, Program Portfolio Review & Renewal and Student Management. Although a culture of transparency is espoused in relation to the organisational restructure, staff members are uncertain of the objectives and the outcomes and some have taken early retirement or redundancy packages. Media reports have added to the confusion, and students have been openly concerned that programs in which they were enrolled might be cancelled. These issues have contributed to the contradictions which have impacted on staff morale and reduced the focus on providing quality learning outcomes for students.

Approximately 50% of the students in the project management program are resident offshore and the stated mission of the University is to be a leading ‘transnational’ educator (Lovegrove, 2004a). The demographic profile of students indicated in the findings of the survey contribute to the underlying contradictions arising from: language skills and the design of learning resources based on large volumes of reading; conflicts between studies and other facets of students’ lives involving culture, religion, family and workplace practices; absence of pedagogical models familiar to students from prior learning experiences in other countries and universities; and lack of consideration of individual learning styles, and the absence of collaborative learning practices.

4.2.10 Assessment policies

Academic regulations relating to assessment are set out in the University Calendar (University of Southern Queensland, 2008b), the official version of which is published online and updated frequently. Blanket policies and regulations apply to all student cohorts and little formal consideration is given to the differing circumstances of postgraduate students, nor for such students as those in the project management program whose work often involves remote project site locations or extensive travel.

For many years, the full extent of penalties prescribed by academic regulations for late submission of assessment items were applied literally by academic staff members, thereby disadvantaging students whose lives did not align with the inflexible nature of University rules and policies. The University's requirement at the time of the commencement of this study was that 'a penalty of a maximum of 20% of the assigned mark shall normally apply for each working day late' (Regulation 5.6.3.4 in University of Southern Queensland, 2004, n.p.), and have been applied in instances where assessment items have been submitted late by only a few hours. Such instances suggest that the espoused values of the University to provide flexibility for students have conflicted with actual teaching and learning practices and are explored as part of the study.

4.2.11 Summary of document analysis

Document analysis has been an ongoing process throughout the study and has identified potential disturbances that have influenced the data collection and analysis, including the following:

- The stated vision, mission and values of USQ appear not to be reflected in the academic and administrative practices of the University community;
- Organisational changes are focused on 'efficiency' criteria rather than pedagogical criteria;
- The quality of learning outcomes, including those through distance education, may be reflected in the failure to obtain funding from the Learning and Teaching Performance Fund;
- Appointment of new members to the University senior leadership appears to have a reduced focus on expertise in the area of distance education;
- Expectations of academic staff are focused on compliance with administrative workload formulae rather than teaching and learning outcomes;
- An historically-strong focus on research into distance education appears to have lessened;
- Standardised and rigid administrative policies appear to disadvantage postgraduate student cohorts such as those in the project management program

whose needs differ from other postgraduate students, and which differ substantially from those of undergraduate students who are unlikely to hold full-time professional positions;

- Assessment policies may not reflect the diversity of postgraduate students' needs and circumstances, especially vocationally-focused students such as project management;
- Project management academic staff are required to teach in a range of distance education delivery modes as well as in face-to-face modes; and
- Postgraduate project management students have been confronted with a poorly-understood range of distance education study modes from which to select programs and courses;

4.3 Stage 2 - Semi-structured interviews

4.3.1 Semi-structured interviews

In order to explore the research questions posed in Chapter 1, it was essential to gain an understanding of the learning environment, the elements that made up the teaching and learning system, the key players in the learning community, the roles that they played, the regulatory framework in which they operated, the tools that were available to them and their individual and collective objectives. The most effective way to gain that understanding was to explore the teaching and learning environment by undertaking interviews with a range of key participants to capture experiences and insights from multiple perspectives.

This section describes the methods and techniques used in carrying out semi-structured interviews with purposefully-selected individuals who were representative of major stakeholders associated with project management education at postgraduate level. In total, 12 interviews were carried out to provide answers to the research questions, and details of the interview questions are provided in Appendix 1. Steps in the analysis of data comprise data reduction, display and examination, conclusion drawing and verification (Sowden & Keeves, 1990). Identification of major themes

has allowed the development of a framework for carrying out subsequent stages of data collection and analysis. Interviews were carried out iteratively over three phases as detailed in Chapter 3.

4.3.2 Phase 1 of interviews

Initially three interviews were completed as indicated previously in Table 3.4. Appendix 5 provides an example of the preliminary analysis of interview data. Appendix 6 provides an example of how key themes identified from analysis of Phase 1 interview data were initially coded and collated as a means of identifying recurring themes and patterns. This example relates to codes defined under a category of education environment.

For Phase 1 interviews, a comprehensive hierarchy of preliminary ‘codes’ was created to reflect the range of topics related to issues that had been raised by the various interviewees. Each of the passages was coded so that similar concepts could be grouped for more detailed analysis to see where dominant topics emerged. Further data reduction was carried out by absorbing less dominant issues into more dominant ones. Analysis also included dual coding (Miles & Huberman, 1984) where an issue involved two or more topics e.g. ‘team assessment’ related to topics of ‘teams’ and ‘assessment’. Initial categories tended to be descriptive rather than analytical and ‘clumping’ (Bryman, 2001) of topics and issues eventually suggested broader concepts and categories. This led to the generation of dominant ‘themes’ (such as ‘autonomy’ and ‘transformation’) under which most codes could be absorbed.

4.3.3 Phase 2 of interviews

Following analysis of interview data collected in Phase 1, two additional interviews were carried out to collect data from a broader base and to achieve greater depth. Details of the additional interviewees have been provided previously in Table 3.4. The additional data was analysed in a similar manner and the findings were consolidated with those from the analysis of earlier interviews.

4.3.4 Findings from analysis of interviews in Phases 1 and 2

From the analysis of all five interviews, a view emerged of the dominant issues and concerns and these are illustrated below by a selection of typical responses (Perry, 1998) to the interview questions.

Q1. What do you think are the major objectives of PM training and education?

Students are expected to develop independent learning skills through an autonomous learning environment.

“I think this culture has to be changed...autonomous learning is about a readiness to accept that one’s knowledge and competencies need constant updating.” (ACA-010)

There was a focus on development of higher order competencies.

“...(project management) is a higher level management skill and that’s not reflected in the theory – not even in the research, let alone the training and the teaching.” (PRM-003)

Graduates require greater understanding of fundamental principles and development of soft skills rather than technical skills.

“...people who are responsible for developing project management capabilities in their organisation...want a more in-depth, more fundamental understanding of project management...the more people have that fundamental understanding, the less need there is to provide them with detailed support and help on tools” (PRM-001)

“...as you get more senior and more experienced, then revisiting the principles and more of the softer skills and people skills become quite important” (PRM-003)

There is an expectation of the universities to define the profession and expectations of project managers.

“Who are professional practitioners, and what are the characteristics of professional practitioners, and how those should be developed?” (ACA-010)

“(It) places a lot more responsibility on the universities to really define the profession of – what should constitute professional competency sets, skill sets and abilities and generic attributes” (ACA-010)

Q2. What sort of learning environment would be effective for achieving those objectives?

The learning environment is expected to be student-centred and focused on independent and collaborative learning.

“...the environment for them should be a lot more self-referential and autonomous learning and self-assessment and peer-assessment...so we see our mission is to challenge the students in terms of their established paradigms but also to make sure that they definitely have the competencies needed” (ACA-010)

Q3. How would you describe typical characteristics and attributes of PM students before and after education and training?

Postgraduate students undertake study because they are aware of their need for further professional development.

“...the main thing that they have in common is that they know that they don't know things, and they have reached that level of maturity that they know they don't know things” (PRM-001)

“I have seen people who were so keen to do it that they have put their hand into their own pocket for considerable amounts of money.” (PRM-001)

Postgraduate students undergo a personal and professional transformation as a result of their studies.

“...people (are) coming to us with pretty closed minds but leaving the University with a lot more open-minded approach and understanding...the universities are about changing people’s mindset.” (ACA-010)

“...our role becomes that of facilitators” (ACA-010)

Q4. What factors do you think are relevant in selecting appropriate training and education in project management?

Project management education requires substantial workplace experience to contextualise their studies.

“...you need three years experience really before you start doing it” (PRM-003)

Postgraduate students face a lot of conflicts and require flexibility in their study environment.

“The big consideration here I think is...the lack of available time in your normal business hours and the conflict with family life...the more you can make the system flexible to cope with those things, then I think the better it will be.” (PRM-002)

Q5. What value, if any, does workplace learning add to PM training and education?

Students need a workplace context in which to apply their learning immediately.

“...if I didn’t have that workplace application that I can apply to what I am learning it wouldn’t suit me” (STU-003)

“You can study as much as you like, but if you’re not applying it, the learning goes out the door.” (STU-003)

“...most people learn better when they get an opportunity to apply things to real situations” (PRM-002)

“...(workplace-based learning is) everything. You can study project management all your life but until you actually practise it, it doesn’t mean anything.” (PRM-003)

Q6. Accreditation as a project manager with the Australian Institute of Project Management is based on competency-based assessment with no consideration of tertiary qualifications. In what ways, if any, should consideration be given to the requirements of professional accreditation when selecting a training and education program?

There is a gap between professional accreditation practices and tertiary qualifications with regard to learning outcomes and definition of professional competency.

“I don’t think that (Professional Body A)’s professional accreditation got it right...a multiple choice exam... it is not worth the paper it is written on.” (PRM-001)

“...we say that qualification, even experience, does not equal competence. You could have been in the system for a number of years but that doesn’t mean that you are a competent project manager.” (PRM-003)

Q7. In what ways might distance education impact on the effectiveness of a PM training and education program as compared with face to face education?

The postgraduate learning environment should reflect industry practice in terms of collaborative team activities.

“...if people...just do it exclusively, without ever being in a team, you lose the benefit of that cross fertilisation of ideas” (PRM-002)

“...about 40% of the learning experience comes from the interaction with others.” (PRM-003)

The learning environment should allow students to develop and proceed at a pace that reflects their personal and professional circumstances.

“(Distance education) can impact positively if it’s flexible...it needs to be, to allow the student to work through the material at the pace of their interaction with their real or their scenario-based project.” (PRM-001)

“...it’s flexible. It’s available...a picture’s worth a thousand words. You can get into all that stuff that’s a bit hard to do via text book.” (PRM-002)

Q8. In what ways might computer- and internet-based technologies impact on the effectiveness of a PM training and education program?

There is agreement that the learning environment should reflect the industry environment in the way that technology influences most aspects of professional practice.

“...it’s very much suited to an online environment because the focus of learning shifts from the classroom, which is a teacher driven process, to that of autonomous learning, which is student centred learning” (ACA-010)

A virtual model of study provides a level of flexibility that is essential for postgraduate students.

“For postgraduates, I think increasingly...the virtual model is the one to design for.” (ACA-010)

“It is very difficult in the twenty-first century to demand that...young professionals come to the classroom environment because of commitments that they have at job, and family...So, it’s quite natural that we go to a virtual model” (ACA-010)

Interaction is a key component in professional development and learning.

“...going down the more modern interactive path, I think...that would be a way that the effectiveness of distance education could be improved.” (PRM-002)

“I don’t think technology can substitute human interaction...having the lecturers there...I don’t think you can substitute for that” (PRM-003)

4.3.5 Findings from initial phases of interviews

Completion of the five interviews had provided partial answers towards some of the questions above, but had also brought into focus issues to be explored further.

- It was suggested that students’ needs and circumstances were not fully understood nor considered in the formulation of policies and regulations, and that some academic staff appeared to lack empathy for students’ needs and circumstances.
- The opportunity for students to interact and engage was seen to be limited because of the distance education environment.
- Although many students are employed full-time or part-time in an environment that offers opportunities for contextualising their learning, that opportunity is rarely incorporated into teaching and learning practices.
- Assessment practices may not fully exploit opportunities to integrate learning objectives and learning outcomes through contextualisation of assessment tasks.
- The objectives and outcomes of the project management studies were not aligned with the focus of professional bodies representing project management practitioners.

To explore these issues further in the context of this study, additional interviews were undertaken within USQ. At this stage of the study, AT (Engeström, 2000) provided a framework for exploring those issues and influenced the selection of questions for Phase 3 of the interviews.

4.3.6 Phase 3 of the interviews

Seven additional interviewees were identified to complete the interview stage of data collection and analysis, and details of the additional interviewees have been provided in Table 3.5. Interviews in Phase 3 were intended to gain multiple views from internal stakeholders to identify concerns of stakeholders involved in providing or undertaking distance education. At this point, it became necessary to change the method of analysis in order to handle the large volume of data, and computer-based programs were used.

4.3.7 Use of Leximancer software for analysis of interview data

In order to access the power of computer-based programs to analyse large datasets, a decision was made to use Leximancer software www.leximancer.com which carries out a lexical analysis of the data, undertaking a quantitative analysis as well as a relational analysis. It is text mining software that can be used to analyse the content of collections of textual documents (Leximancer Pty Ltd, 2007). The information is displayed in a tabular form to illustrate the most frequent lexical terms in the dataset, and can also be displayed by means of a conceptual map that provides an overview of the material, representing the main concepts contained within the text and how they are related (Leximancer Pty Ltd, 2007).

Prior to analysis, each interview transcript had all dialogue and text removed apart from what the interviewee had said personally so there were no ‘contaminating’ data from the interviewer. The strategy used by Leximancer is ‘coding or tagging of text segments using a set of concepts, each of which is defined by a set of relevant words’ (Leximancer Pty Ltd, 2007, n.p.). Those concepts and words (defined as ‘seeds’ in

Leximancer) can be automatically generated by Leximancer or manually defined, and both options are described below.

A Leximancer analysis was carried out using a transcript of all interviews collated into one document. Files of acceptable types were entered into the Leximancer program for lexical analysis, and the default setting allowed the program to identify ‘seeds’ (which is the equivalent of coding the document to identify the most-commonly occurring words). Using those seeds, Leximancer then quantified those occurrences and related each seed to all others in terms of frequency and strength of relationship.

The shortcomings of this initial approach were that the seeds generated by Leximancer were not of a sufficiently ‘thematic’ nature and that there was no clear indication of the context in which many frequently-occurring words were used (for example, ‘work’ could have many meanings which would influence the interpretation of the findings). The unit of analysis became individual words that were decontextualised and the ‘feel’ for the data was lost, so an alternative approach available within Leximancer was pursued.

4.3.8 Nomination of user-defined ‘seeds’ in Leximancer analysis

Leximancer also allows the user to nominate the ‘seeds’ by which it carries out the relational analysis and this approach was then taken to focus on the more thematic concepts. The user can select the key words for seeds by which the analysis will be carried out, and can also define what other words equate with that seed. For example, ‘education’, ‘study’ and ‘learning’ could be grouped into a single seed defined by the researcher. Key words and themes identified from previous manual analysis of the interviews in Phases 1 and 2 were selected and used to generate the relational analysis. An additional seed of ‘disturbance’ was included to identify instances of tension, conflict and underlying contradictions. The results of an analysis of all interviews using seeds defined by the author are indicated in Table 4.3.

Table 4.3: Ranked concepts for all interviews using selected seeds

Concept	Absolute Count	Relative Count	
learning	388	100%	
workplace	291	75%	
student	271	69.8%	
authenticity	226	58.2%	
engagement	196	50.5%	
competence	186	47.9%	
disturbance	138	35.5%	
assessment	135	34.7%	
teaching	89	22.9%	
professional	78	20.1%	
autonomy	67	17.2%	
flexibility	43	11%	

(Source: Generated by Leximancer)

Table 4.3 provides a clearer picture of the key issues identified from the interview data than the initial approach using Leximancer-defined seeds. Conclusions drawn from this analysis include:

- There is a clear emphasis on student learning including authentic learning and engagement, and
- The importance of the workplace, competence and assessment are indicated.
- Surprisingly, flexibility was not revealed in this form of analysis.

However, the context and the meaning behind the individual concepts were difficult to interpret and it was difficult to draw clear conclusions, and an additional analysis of the interview data was then undertaken to gain greater insights.

4.3.9 Manual analysis of the data from all interviews

Initially, brief narratives were created to highlight the key issues identified in each interview, and a summary of each narrative for the second phase of seven interviews is provided below. Consistent with the conceptual framework selected, the analysis examines the data in terms of the respective nodes of AT.

4.3.10 Analysis of interview with ACA-001

Basis of selection – This interviewee was a senior instructional designer in a central academic support unit with extensive experience in distance education at postgraduate level with programs involving project management courses.

The issues identified from this interview relate mainly to the learning **community** and the institutional **division of labour**. There is a lesser concern about **rules** and **tools**, and the **subject** (the ‘student’ in this AT analysis) and the **object** raise few concerns. A summary of the analysis identifies the following disturbances (with quotations from the interviewee):

- Constraints on institutional resources (**division of labour/tools**) which restrict the ability of academic staff to create the desired teaching environment:
 - *...how sustainable is that (group work), how practical given the work that it requires of the course leader and facilitator, and if you want that kind of education you have to pay the dollars for the course leader and the facilitators to actually facilitate that.*
- The desire to move students from a state of dependence to one of becoming an independent learner (**subject/object**):
 - *...whereas at postgraduate they should be applying their knowledge and making conceptual leaps within their context, not just gathering information.*
 - *...students are quite dependant, have a kind of dependency relationship with the course leaders instead of being independent learners.*
- Creating an environment to engage the learner in the learning process (**subject/community**):
 - *...if you design it for collaborative learning group-based group projects where you're dependent on students to get online and interact, then Internet access is definitely an issue.*
 - *...the interpersonal skills are important, technology skills are important, and to practise those for a student to graduate from USQ with those graduate attributes that they have to participate in group activities.*
 - *...the asynchronous discussion group means a lot of students will actually read the discussion but they won't engage themselves. They may engage in*

their own head, but they won't put their ideas down to be challenged by others.

- Recognition of personal and environmental constraints on learners in the learning process (**student/tools**):
 - *...there are language problems with English as a second language.*
 - *They're very time poor because most of them are working full time. They're mature age, working full time with family commitments often, they're time poor which means they have to be quite strategic in the way they approach their studies.*
 - *Well some of the students come from third-world countries so they have trouble with Internet access so you have to consider that when you're designing your collaborative learning tasks.*
- Constraints on ability to create individual learning opportunities for the learner (**subject/object**):
 - *...research from employers in the UK...were saying that...what we used to call the soft skills, they valued more than people coming out with discipline-specific knowledge because that knowledge is dated within a couple of years.*
 - *...those postgraduate students...they're bringing their own expertise and practice and they should be able to mesh those to create new opportunities for themselves and the companies that they're in.*
 - *...you'd run a course and students would come in, and they all come in with different needs and ways of approaching learning, so within that course there would be the facility for the student to do independent learning or group learning or actual collaborative learning, and the task would be set up so that they could choose their own learning pathway.*

4.3.11 Analysis of interview with ACA-002

Basis of selection – This interviewee was a senior instructional designer in a central academic support unit with responsibilities for development of postgraduate project management distance education learning resources.

The issues raised in the comments are predominantly related to the **object** of the student learning experience, and the **community** associated with that learning experience. There was a slightly lesser concern with the nature and circumstances of the **subject** (the student learner), and the **division of labour** in creating the learning environment. There was little concern with the **rules** and **tools**. A summary of the analysis identifies the following major sources of disturbance (with quotations from the interviewee):

- Pedagogical and administrative problems associated with large numbers of students in a DE environment (**subject/community**):
 - ...you've got to look at just how manageable are various processes with large groups of students.
- Consideration of the diversity of the student population (**subject/community**):
 - Some (postgraduate students) have some background, whether it's from their previous study, or whether it's from their workplace, and their actual experience in industry and business of a project management area. Therefore they come with some predetermined focus, or already some knowledge of what they're actually doing within that area. Others come with none at all. So the difficulty in dealing within these particular courses are (sic) quite a range, quite a spectrum of background and characteristics.
- Elimination of limitations on the students' learning experience (**subject/object**):
 - It's (postgraduate study) looking at a level of thinking, a level of problem solving that goes beyond the first learning, or the first development of knowledge within a particular area, there's something that's more developed than that, that's more complex than that first learning.
 - ...there's a huge amount asked of the students to cover, and yet often their actual assessment tasks mean they will need to deal with some of that more specifically and more in-depth than the broad nature of what is actually given.
 - ...(diversity) creates a rich learning and teaching environment but it also creates a lot of challenges. It creates challenges again of setting explicit, even assessment tasks, making sure that every student interprets or understands what's asked of them from assessment tasks.

- The need to personalise the students' learning journey (**subject**):
 - *The motivation of postgraduate study again, can relate to the difference in wanting to know about something, there's more, quite intrinsic motivation that someone really just sees something as quite a passion or an area they want to follow and know more about.*
 - *...at postgraduate level there's a definite need to have students who are more self-motivating and very much self-directed in carrying out their own, setting their problems, setting the parameters of the problems, looking into what they can do about them, and then being able to then draw on or judge and choose content area, content that's going to help solve that particular problem, so there's a lot more of self-motivating, self-directed, self-searching, assessment of the information out there.*
- Lack of consideration of the students' progress through their learning experience (**subject/object**):
 - *...they're not a postgraduate student literally at the moment that they enrol.*
 - *...they're an early postgraduate student and they become more of an experienced postgraduate student as they evolve, as they develop from there. So their skills may be wanting or expecting.*
- Lack of recognition of the need to develop 'soft' skills (**tools/object**):
 - *They're actually intending to master a process to work through knowing how to do things, rather than what it is. Included in that I would say are not only content or specific content related knowledge but the skills related to processing information, searching information, study skills related level of skill and development as much as the content itself.*
- Lack of integration of the various elements that make up the learning experience (**division of labour/community**):
 - *...in some ways the advantages of the distance education are certainly that students can be working in the environment that they are studying in, so they've got the advantage of seeing what's happening, or questioning what's happening when they're learning new knowledge and looking at new skills.*
- The need to maximise communication and collaboration for students (**subject/community**):

- *Whether it's a better and more effective learning experience I think is what opportunity is provided by both the ongoing contact with other people involved in that same process, whether there be other students, the teaching staff, and how that whole learning environment can be enriched.*

4.3.12 Analysis of interview with ACA-005

Basis of selection – This academic interviewee had a senior management role in an academic faculty and was responsible for teaching and learning outcomes for postgraduate programs as well as teaching in face-to-face and distance education modes.

Comments in the interview have identified disturbances related to the **community**, **division of labour** and **tools**. There was a lesser concern with the object of the students' **study**, with only a minor concern about the **rules**, and few concerns related to the **subject**. A summary of the analysis identifies the following major sources of disturbance (with quotations from the interviewee):

- Historical problems arising from organisational change and the need for ongoing change (**division of labour/rules/tools**):
 - *(The person) who is running our faculty review at the moment, and (he) is struggling with why...Academic Board didn't have any say in any monetary decisions, budgetary decisions. They're just confined to academic issues. Now, that's historical...the way we run universities.*
 - *...we're just wasting our time because you cannot separate out pedagogical issues, resource issues, financial issues if you're going to resolve some of the big issues confronting us they're not separating out, well you deal with the finance, you deal with the pedagogy, they're all the same.*
- Lack of consideration of factors of complexity, diversity and massification (**community/rules/tools/object**):
 - *...we create barriers here by the way we design courses, by the clarity or lack of clarity in our instructions, our requirements of the students, in the way we assess, in our sensitivities to diversity in our student cohorts...there are some*

very caring course leaders amongst our staff, very caring, but there are some less-than-caring course leaders.

- *...in the traditional on-campus classroom...one to 30, one to 20, one to 40 was max...but in distance education one to 1,000 was OK, as long as we didn't get too many phone calls.*
- Communication issues impacting on workload and student support (**community/subject**):
 - *So that's another example of the classroom or on-campus model that, you know, well, hey, it's Christmas, let's just walk out because no one will be here on-campus. Whereas you and I both know that we're at home, and you dial the email and they're all there as large as life.*
- Excessive workload implications arising from new models of teaching (**division of labour/community/rules**):
 - *With the introduction of ICTs, particularly email, and more recently discussion forums, of course that is whether we like it or not, changing the way we work and changing the position on our time.*
 - *...our workload formula still focuses around sort of hours in the classroom. We think of semesters in terms of how we're teaching from the old models.*
 - *...one of them who is a Professor in Education (in another university) was talking...and he said well, in terms of the discussion forum, I'm only going to give them two hours a week. I thought it was a perfect example of a two-hours contact a week, and that's how they thought.*
 - *...the irony of that is that we're winning all these awards for the e-learning university, yet the IR people tell us that we can't work...staff can't work during the interim (holiday) period...so we're expected to go out and close down and not talk to any of our students.*
 - *...in pedagogical terms we can't sustain the way we're going and just working on weekends for nothing because we're still answering emails.*
- The need for training and support for the adoption of technology by staff and students (**division of labour/tools**):
 - *...we're in...a transition going from traditional print-based...to ICTs...it's not only staffing that's going through a transition of the different combinations and permutations and what it means for them, their own*

competencies, their own learning curves, their own workloads, etc. but also the students are going to have to do the same thing.

- *...as we get excited about...what we can do with the new technologies from a teaching/learning point of view that we (can't) lose sight of the fact that we've got a diverse bunch of students with different expectations...we don't want to assume that we're going to drag a thousand students kicking and screaming into a totally directed environment.*
- Conflict between changing practices and tools (e.g. technology) and lack of support for the new practices and teaching models (e.g. on-campus paradigms) (**community/rules/tools**):
 - *I remember many years ago, that the engineers would not admit that you could do engineering by distance education. Ten years later, there they were.*
 - *...we're stumbling into the ICTs, so I don't think we, as a community practice across the faculty for example, have got a shared idea of what we're doing with this stuff.*
 - *...the Faculty became dominated by distance education because that's where most of the students were, and then more recently we are trying to embrace the ICTs and I guess we're trying to determine whether we're going to a new paradigm, or is it still a re-interpretation of the still-basic classroom model.*
- Inadequacy of human resources and support (**division of labour/rules**)
 - *...if we keep going down the virtual track it's putting us into a virtual classroom situation where if we want to service these people and do all these wonderful things, we've got to come back to student/staff ratios.*
- Conflict between requirements of quality in teaching and learning practices and availability of funding (**division of labour/tools/rules**)
 - *...if the government gave (the faculty) the same resources they gave science and the medicos, we could run decent simulations, we could develop decent resources to get a step closer to stimulating and simulating managerial practice.*
- Failure to consider autonomy of learners (**subject/community/object**)
 - *We have created a pool in the last 20 years of independent learners. It's not as though we're just starting out with a fresh bunch, we've developed a big pool in Australian higher education of independent learners.*

- ...some of our course leaders may...have lost sight of the truly independent learner and their expectations and just gone on boldly about, you know, oh, we've got a discussion forum, everyone is going to be on the discussion forum, I demand it...
- Failure to consider circumstances and needs of students (**subject/object**)
 - ...your question about the barriers has got to be in the context of our expectations and their expectations, where they're coming from. So what we think is good learning experience may not be the same as theirs.
 - ...the willingness of course leaders to go to examinations, and more specific types of exams like multiple choice to overcome some of the existing logistical issues, and I just feel that's a good example where some of those course leaders are just totally losing sight of the student experience and the students' expectations of having a good experience, let alone being assessed on what they've learned.
 - When we go and visit (the overseas students) we know that these people are as bright as anyone, but many of them – but they've got language problems, they've got writing problems, so some of our staff just write them off because they're time consuming or whatever, and they 'should be up to scratch anyway'.

4.3.13 Analysis of interview with ACA-007

Basis of selection - This academic interviewee has a senior academic and managerial role in a large technically-focused faculty and has extensive experience with postgraduate distance education for students in professional technical disciplines.

Comments have identified disturbances related to the **division of labour**, with fewer concerns about the **subject** and **object**. **Community**, **tools** and **rules** raise only minor concerns. A summary of the analysis identifies the following major sources of disturbance (with quotations from the interviewee):

- Lack of resourcing for distance education teaching (**division of labour/tools**):

- *We know we should be doing a lot of these things but my priority and my time just doesn't allow us to do that.*
- *I think there needs to be a recognition that because we're a distance education university that that changes the priorities, or that should have an impact on the priorities of staff and the rewarding of staff.*
- *...distance education courses are ubiquitous. If you're not actually teaching it in one semester then generally you're updating all the materials or you're working on a component of it so it's there all year.*
- Problems arising from constant organisational change related to teaching and learning (***community/division of labour/tools/object***):
 - *...we certainly did things probably a whole lot better...firstly the lack of resources we have now compared with previously...The second one is the decrease in the teaching semester...we've gone from 16 weeks down to 12 or 13.*
 - *...compared with where we were maybe 15 years ago, or 10 years ago even, we probably offer a lesser service to our students.*
 - *...it's really a paradox at the same time, the University is making all these changes, the University is also striving to improve its retention rates, and yet a lot of these decisions that we are making are actually having the opposite impact.*
 - *...whilst the stated priority of the University is distance education they're going to reward staff for doing other things and so you know, I think that's one of the things that needs to change but I can't see it changing.*
- Organisational and financial focus on research activities at the expense of development of better quality teaching activities (***division of labour/community/rules***):
 - *...the majority of staff were not involved in research, a lot of time was put into teaching and development of materials and keeping materials up to date and developing case studies, videos and all those sorts of things which really enhanced the offer of the program.*
- Increasing teaching workloads arising from the 'massification' of distance education and the use of casual staff for academic activities (***division of labour/community/tools***)

- ...*the massification and use of part-time staff to do a lot of (the assessment)...the huge increase of numbers of students but also the time that you have to actually sit. I'm aware that some faculties limit, you've got an hour or an hour and a quarter per student (for marking) and that's it.*
- Inconsistency in learning resources (**tools, object**):
 - ...*in any program you're only really as good as the weakest link. So there's always the odd course that...that isn't as good as the others, the materials a bit dated and so on.*
- Failure to consider the diversity of student attributes at various stages of their learning journey (**subject/object/outcomes**):
 - ...*at a postgraduate level because you've got people coming in at the bottom with diverse backgrounds and skills, and getting them all to graduate with the required skills at the end of a program particularly where there is a lot of choice within that program is a difficult thing to do.*

4.3.14 Analysis of interview with ACA-009

Basis for selection – This academic interviewee has a senior executive role in the University with considerable experience in the development of expertise in professional disciplines through distance education.

Comments have identified considerable disturbances related to the **division of labour**, with fewer concerns related to **rules**. **Tools** and **object** raise only minor concerns and **community** is the source of low levels of concern. **Subject** generates no concerns at all. A summary of the analysis identifies the following major sources of disturbance (with quotations from the interviewee):

- Inadequate and inappropriate allocation of human resources for teaching and learning (**division of labour/community/tools**):

- *(Diversity) can be reflected to a degree but I think everything is constrained by time, resources, numbers, and we probably work to a formula that probably leans more towards a controlled undergraduate-type model.*
- *...we do too much and I think the activity-based-costing and the activity-based management is flowing from that. I call that the stop-doing committee because we just seem to be adding stuff on all of the time and I think I'd rather...offer a tighter range of well-targeted courses.*
- *...there's too many courses with small enrolments and we just spread ourselves too thinly, so I agree that's a major issue that complicates the reality of moving towards more effective pedagogy.*
- *...having expectations for the learning journey of the student that should be reflected in the staffing, allocation of staff and time and so on, and all of that can be tied back into a workload,*
- *...what we can do is manage the challenge of the environment in a more proactive way than we do. But people aren't putting time into it. People are scrambling along trying to do their own teaching, their own research, everybody's too busy.*
- *People just scramble. I don't think that we have mechanisms yet to manage in a proactive explicit model of what we have to achieve.*
- Lack of support for large classes flowing from massification of distance education (**community/tools**):
 - *...we've had good models of (large courses) with some courses in the past but as the numbers have grown in certain areas I don't think we've had a support mechanism for academics to help them manage that.*
 - *...the quality of the support available to the course leaders is varied as well and it is a threat to our reputation.*
 - *...we largely let course teams sink or swim and not engage with them on the issues.*
 - *...some students often get ahead of the typical pattern that's recommended and again it's not as much flexibility as they might like.*
- Lack of recognition of the value of the workplace for learning (**community/division of labour/tools**):

- ...as a principle of adult learning in vocationally related courses I think that it would be an essential element that everyone would agree that in an ideal world we should be enabling workplace activities.
- ...they want a recognised qualification in a specific area that's valued by employers...they wanted to develop expertise that they will find useful in their workplace.
- Failure to utilise technology to maintain the quality of learning resources (**tools, division of labour**):
 - ...quality of the learning resources...at one stage we were right on top of that, but as the number of courses and resources and what have you grew, I think we lost the plot a little there and the diversity in terms of quality of materials probably got away from us for a while.
 - ...what I think we need to do is use the technology in an astute way to help manage the quality issues.

4.3.15 Analysis of interview with STU-001

Basis of selection – This interviewee was a postgraduate project management student with a few years of experience in distance education studies for a Master of Business Administration program at the University.

Comments highlighted disturbances related to the **object** of the learning experience, with fewer concerns about **community**. **Tools** were the source of some concerns with fewer concerns about the **division of labour**. **Rules** and **subject** generated few concerns at all. A summary of the analysis identifies the following major sources of disturbance (with quotations from the interviewee):

- Lack of grounding of studies in the workplace environment (**object/community**):
 - ...our projects were becoming more complex, becoming larger, bigger dollar value, mistakes were more expensive. Our average project had jumped up probably from five to ten million to 100 to 200 million. And now we're doing billion-dollar projects...

- *You've got to get the firm to back you on (external study workshops) as well. They've got to release you for that timeframe, whether it's three days, four days or a week, or three or four weeks.*
- *...it's a huge plus for any student who is doing a course like this is (sic) to have not just any old project, it's really got to be one that is driven by the organisation, is not theoretical, and has practical outcomes to their work.*
- Failure to develop 'soft skills' (rather than 'hard skills') through learning experiences (**object**):
 - *I wanted those broader managerial skills you can get from the other-than-project management units which was good. It gives you a greater legitimacy in a project that you not only have the project management skills...but also supports your project management skills through a project by showing you are bigger than the whole, you can cover whole broader range of aspects.*
 - *...as a project director...you've got to get into the human resources, got to get into the stakeholders, got to get into integration and communications, making the team work so the tools in terms of hard tools become more soft tools.*
 - *...culture is a huge thing, and we are finding that in multi-organisational deliveries, cultures are different, even though we all come out of the same university course, boy, you wouldn't think we work for the same crowd.*
 - *...project characteristics control how you need to respond with your human resources, how your stakeholders need to be managed. Not so much the hard stuff, but certainly the soft stuff, and the project wins out every time.*
- Failure to incorporate collaborative learning experiences (**community/rules/tools**):
 - *...more residentials (workshops) would be handy...to either increase your group discussion to some extent, get a handle on what other people are doing and what work life experiences they are bringing to this type of thing that are different to your own.*
 - *I'm just wondering, because I didn't do a lot of group work whether I would have gained more from being more involved in what I call action learning centres or something like that.*
- Failure to develop a broad set of skills (rather than technically-focused) through the learning experiences (**object/tools**):

- ...now we're doing multi-organisational, multi-aspect type of projects because I've got to be across the finance, the economics, and a whole raft of other issues that impact upon a project other than just a project management integration of the internal engineering functions.
- Need for a flexible independent learning experience (**object/community/rules**):
 - ...getting together a group of people to work on assignments for example, group assignments, would be extremely difficult in my situation.
 - I'd come back after 20 odd years, I was pretty confident in what I wanted to get out of it, and I was focused on achieving my outcome using a course that I had selected to do.
 - That's lumpy, time's always lumpy. It's just like scheduling your workload. There are times when things are quieter, and there are times when things are not so quiet.
 - ...it's been a while since my last degree, was I capable of doing this thing...would it integrate properly with my time management, was it going to be OK, I've still got kids, the house, the usual type of things.

4.3.16 Analysis of interview with STU-002

Basis for selection – This interviewee was a postgraduate project management student with some years of experience in distance education having completed a Master of Business Administration program, and was enrolled in a professional doctorate program carrying out research in the area of project management.

Comments highlighted disturbances related to the **object** of the learning experience, with fewer concerns related to **tools** and **community**. **Division of labour** and **rules** were a minor source of concern and the **subject** was the source of few concerns. A summary of the analysis identifies the following major sources of disturbance (with quotations from the interviewee):

- Need for workplace-related skills (**object/community**):

- *I figured by doing postgraduate education it could increase my chances both in the work I currently do, by learning something new in project management, I didn't have those skills before.*
- *I did look for those practical skills and how it had helped me in my work.*
- Need for flexibility in studies to accommodate unpredictable external commitments (**rules/tools**):
 - *It would have been more than likely difficult or even impossible to do any postgraduate study whatsoever without having the flexibility of distance education, even though the place is in my own city.*
 - *I would probably still need the flexibility...to enrol in distance education because I'm away with work quite a bit and would miss...if I had to attend lectures I probably wouldn't be able to get to a lot of them, so the distance education is very convenient, particularly while working full-time.*
- Need for autonomy and independence (**rules/community**):
 - *...postgraduate, you knew what you were doing, there for a reason, get in, get it done, didn't necessarily need the support with others. I didn't find it anyway.*
 - *...instead of looking right in front of you, look a little further ahead. To me, that's what study is about. It's about...it's about research development, finding, enquiring, why things are happening rather than just accepting and doing and looking back.*
- Failure to develop 'soft skills' (rather than 'hard skills') through learning experiences (**object**):
 - *...managing is about looking after people, and...getting people to work better together I feel, so somehow getting knowledge about how to do that better.*
 - *...people skills and thinking skills? Very much...very much.*
 - Failure to incorporate collaborative learning experiences (**community/rules/tools**):
 - *...there are advantages in being able to talk to people.*
 - *It's a funny thing I still feel like I belong to USQ doing it, but not I suppose the same as when I went through QIT doing my original stuff because you're with a group of 20 people.*

- *The only contact had...which was good in fact was at those weekends, I can't remember what they were called...those weekend tutorials and I found them quite good.*

4.3.17 Narrative summary of analysis of disturbances by AT framework

From these summaries, a list of disturbances has been developed as they relate to the AT framework, and these have been used as a framework to develop the survey stage of the data collection. Disturbances in the case study setting may be represented by barriers, conflicts, problems, tensions, shortcomings and failures in procedures and processes, and underlying contradictions.

Subject

- There were few disturbances related to the nature of the students as 'subject' of the learning activities.
- Academics identified barriers to the creation of an environment where students are actively engaged with the learning process and with others, and their ability to progress students from an initial state of dependency to a state of 'independent learning'.
- Both academics and students identified an extensive range of barriers to achieving learning outcomes including lack of time, finance, access to technology, language, cultural differences, entry characteristics, workplace experience, and level of knowledge at commencement.
- Academics face barriers in providing a personalised learning experience for students and monitoring their progress and development as independent learners because of the 'massification' of distance education.

Object

- Academics identified barriers in helping students move from an early state of dependence to one of 'independent learner', and from novice to expert in the discipline.

- Both academics and students identified the failure to focus on the development of ‘soft skills’ rather than hard skills (which have generally been acquired through an undergraduate degree or from work experience), and the failure to personalise the learning experience.
- Academics and students highlighted the failure to utilise the workplace as a focus for elements of the learning experience and defining learning outcomes
- Students highlighted the failure to provide the necessary breadth of learning (as opposed to the depth of technical learning).
- Students highlighted the lack of flexibility in the learning process to accommodate personal and professional circumstances.

Community

- Academic staff face administrative and technological barriers in their attempts to engage distance education students through interactive and collaborative learning tasks and activities.
- Academic staff are constrained in their efforts to provide a personalised model of learning for individual students because of administrative policies including workload allocation,
- Centralised administrative policies prevent staff from achieving better integration across the elements of the University involving teaching staff, academic support staff, technicians, production staff, distribution staff, and administrative staff.
- Administrative policies that encourage massification of distance education classes for reasons of efficiency have failed to consider the impacts related to the diversity of the student body, the academic body, educational programs and courses, modes of delivery, methods of assessment, and models of learning packages.
- The ineffective use of educational technologies for communication and discussion creates barriers in the development of ‘independent learners’ and ‘collaborative learners’.
- Academic staff and students have identified the lack of integration between the workplace and their studies.

Division of labour

- Academic staff identified disturbances associated with lack of human and financial resources to provide quality teaching in distance education mode, resulting from an ongoing program of economic rationalism.
- Academic staff identified conflicts between increasing teaching workloads and increasing expectations by administration for research outputs.
- Academic staff identified the ‘change fatigue’ resulting from ongoing change in organisational structures and requirements for teaching and learning.
- The use of educational technologies has placed additional workloads on academic staff in relation to non-teaching functions such as setting up ‘study desks’ for individual courses, administration of markers and marking processes, and student evaluation.

Rules

- Academic staff identified a continual process of change in University policies and strategic priorities as an underlying cause of many of the disturbances.
- Policy requirements to increase academic staff focus on research activities and outputs threaten the quality of teaching and learning.
- The use of activity-based costing systems, in spite of concerns raised over the structure and methodology of the system, to identify areas of poor ‘financial’ performance and drive resource allocation threaten the stated focus on student-centred teaching and learning.
- Changing administrative processes to centralise University functions create the risk of loss of specialised expertise in the distributed faculties.
- Assessment policies discourage flexible and innovative practices

Tools

- Academic staff identified barriers in accessing teaching resources including computer facilities.
- Assessment practices are driven by administrative policy rather than pedagogical practices.

- Information and communication technologies are driven by administrative efficiency rather than pedagogical practices.
- Industry and the workplace are not utilised for teaching and learning.

4.3.18 Summary of outcomes of interview stage

The disturbances identified from the analysis of the interviews provided a platform for exploring students' experiences at USQ. Faculty administrative staff identified all students who had completed at least one of the four core project management courses (individual subjects) in the defined period, and they were invited to participate in a web-based survey as detailed in Chapter 3.

4.4 Stage 3 – Students' responses to the web-based survey

4.4.1 Analysis of students' responses in the web-based survey

The interviews have captured the views of a wide range of stakeholders on issues associated with postgraduate distance education in programs directly involving project management or equivalent vocationally-oriented programs in other faculties, and findings from analysis of the interviews have been used to explore students' experiences by means of a web-based survey as detailed in Chapter 3. The purpose of the survey is to identify and evaluate specific disturbances from a student perspective. Findings from the survey of the students are intended to assist in providing answers to the questions:

- *What are the contextual issues that influence postgraduate distance education for project management in the case study setting?*
- *What are the characteristics and circumstances of the postgraduate project management distance education learners in the case study setting?*

As the findings from the analysis of the survey data are used to structure the focus groups which are discussed later in this chapter, for the purpose of clarity some

conclusions are drawn from the analysis of the survey data and reported progressively in this chapter rather than discussed in Chapter 5.

4.4.2 Analysis of survey data in Part A

Part A collected data relating to students, their circumstances and the conditions under which they undertake the studies. An example of part only of the descriptive statistical analysis is provided in Appendix 7. A more detailed discussion on the analysis of each section of Part A is provided below.

Gender of respondents

Approximately 32% of students are female (compared with 25-30% in individual project management classes in 2003) suggesting the potential for ‘life events’ and ‘life responsibilities’ (Dearnley, 2003, p. 5) to disrupt their studies due to carer responsibility for family members (McGivney, 2004). Students in such circumstances may require a flexible learning environment and a high level of empathy and support (Table 4.4).

Table 4.4: Gender of respondents

		Frequency	%	Valid %	Cumulative %
Valid	Female	124	31.2	31.5	31.5
	Male	270	68.0	68.5	100.0
	Total	394	99.2	100.0	
Missing	System	3	.8		
Total		397	100.0		

Age bracket of respondents

Approximately 36% of students are aged between 25 and 34, 39% are aged between 35 and 44 and approximately 24% are 45 or over, indicating diversity in the student cohorts and a potential need for flexibility to cater for the diversity of students’ circumstances including learning styles, level of recent study experience and professional expertise (Table 4.5).

Table 4.5: Age brackets of respondents

		Frequency	%	Valid %	Cumulative %
Valid	Under 25	7	1.8	1.8	1.8
	25-34	141	35.5	35.5	37.3
	35-44	154	38.8	38.8	76.1
	45-54	84	21.2	21.2	97.2
	55 and over	11	2.8	2.8	100.0
	Total	397	100.0	100.0	

English as a native language

Approximately 38% of students do not indicate English as their native language, suggesting potential conflicts around cultural, religious and language issues and learning styles that impact on study and work commitments. Approximately 20% of students do not regard themselves as being fluent in English, suggesting potential conflicts arising from the assessment of learning where it reflects language proficiency rather than learning outcomes (Table 4.6).

Table 4.6: English native speakers

		Frequency	%	Valid %	Cumulative %
Valid	Yes	246	62.0	62.1	62.1
	No	150	37.8	37.9	100.0
	Total	396	99.7	100.0	
Missing	System	1	.3		
Total		397	100.0		

Students with disabilities

Approximately 7% of students have some form of disability that adversely affects their ability to undertake study. This suggests potential conflicts for these students related to learning resources, learning styles, learning modes and duration of learning (Table 4.7).

Table 4.7: Nature of disability affecting studies

		Frequency	%	Valid %	Cumulative %
Valid	Not applicable	347	87.4	92.8	92.8
	Limited vision	2	.5	.5	93.3
	Limited mobility	3	.8	.8	94.1
	Other	22	5.5	5.9	100.0
	Total	374	94.2	100.0	
Missing	System	23	5.8		
Total		397	100.0		

Family commitments

Approximately 38% of students have family commitments that affect their ability to undertake study, suggesting possible conflicts between the requirements of family and study over the duration of courses and the program duration (Table 4.8).

Table 4.8: Family commitments affecting studies

		Frequency	%	Valid %	Cumulative %
Valid	Yes	151	38.0	38.2	38.2
	No	244	61.5	61.8	100.0
	Total	395	99.5	100.0	
Missing	System	2	.5		
Total		397	100.0		

Work commitments

Over 70% of students have work commitments that affect their ability to undertake study, suggesting possible conflicts between work and study (Table 4.9).

Table 4.9: Work commitments affecting studies

		Frequency	%	Valid %	Cumulative %
Valid	Yes	278	70.0	70.7	70.7
	No	115	29.0	29.3	100.0
	Total	393	99.0	100.0	
Missing	System	4	1.0		
Total		397	100.0		

Employment status during studies

Almost 92% of students are working full-time while studying, suggesting possible conflicts related to the limited opportunities to undertake learning activities and other work/study conflicts (Table 4.10).

Table 4.10: Employment status during studies

		Frequency	%	Valid %	Cumulative %
Valid	Working full-time	363	91.4	91.9	91.9
	Working part-time	19	4.8	4.8	96.7
	Not working	9	2.3	2.3	99.0
	Other	4	1.0	1.0	100.0
	Total	395	99.5	100.0	
Missing	System	2	.5		
Total		397	100.0		

Duration of career and role in project management

Approximately 85% of respondents are employed as project managers with approximately 60% of respondents employed at senior levels, suggesting opportunities for use of the workplace as a basis for learning and assessment activities (Tables 4.11 and 4.12).

Table 4.11: Duration as Project Manager

		Frequency	%	Valid %	Cumulative %
Valid	Less than 5 years	172	43.3	43.4	43.4
	6-10 years	105	26.4	26.5	69.9
	11-20 years	40	10.1	10.1	80.1
	More than 20 years	18	4.5	4.5	84.6
	Not applicable	61	15.4	15.4	100.0
	Total	396	99.7	100.0	
Missing	System	1	.3		
Total		397	100.0		

Table 4.12: Role level as Project Manager

		Frequency	%	Valid %	Cumulative %
Valid	Not applicable	68	17.1	17.2	17.2
	Project team member	85	21.4	21.5	38.7
	Project manager	122	30.7	30.9	69.6
	Project director/program manager	120	30.2	30.4	100.0
	Total	395	99.5	100.0	
Missing	System	2	.5		
Total		397	100.0		

Prior undergraduate degree

Approximately 79% of students have an undergraduate Bachelor's degree prior to undertaking postgraduate study. Over 20% of postgraduate students come to their studies with little or no prior tertiary experience suggesting the need for high levels of support for those students (Table 4.13).

Table 4.13: Prior undergraduate Bachelors degree

		Frequency	%	Valid %	Cumulative %
Valid	Yes	309	77.8	78.2	78.2
	No	86	21.7	21.8	100.0
	Total	395	99.5	100.0	
Missing	System	2	.5		
Total		397	100.0		

Prior studies in distance education

Over 90% of respondents have undertaken distance education study at postgraduate level indicating that they continue to take advantage of distance education and bring prior experience of learning at a distance to their studies (Table 4.14).

Table 4.14: Highest level of study by DE

		Frequency	%	Valid %	Cumulative %
Valid	Not applicable	14	3.5	3.5	3.5
	Undergraduate degree	12	3.0	3.0	6.6
	Postgraduate certificate	75	18.9	18.9	25.5
	Postgraduate Diploma	22	5.5	5.6	31.1
	Master's degree	272	68.5	68.7	99.7
	Doctoral degree	1	.3	.3	100.0
	Total	396	99.7	100.0	
Missing	System	1	.3		
Total		397	100.0		

Source of funding for studies

Almost 60% of students are fully self-funded suggesting a possible focus on value for money in undertaking professional development. Approximately 13% have their studies totally funded by other sources, suggesting that other stakeholders would have an interest in the nature and value of learning outcomes (Table 4.15).

Table 4.15: Source of funding for studies

		Frequency	%	Valid %	Cumulative %
Valid	Other	3	.8	.8	.8
	Fully funded by others	51	12.8	13.0	13.8
	Partially self funded	105	26.4	26.8	40.6
	Fully self funded	233	58.7	59.4	100.0
	Total	392	98.7	100.0	
Missing	System	5	1.3		
Total		397	100.0		

Residential location during DE study

Over 50% of students are not resident in Australia, suggesting possible issues related to access to learning resources, access to the internet and other technologies required to undertake distance education, and a sense of isolation (Table 4.16).

Table 4.16: Residential location during DE study

		Frequency	%	Valid %	Cumulative %
Valid	Australia	186	46.9	47.4	47.4
	Asia	111	28.0	28.3	75.8
	Africa	31	7.8	7.9	83.7
	Eastern or Western Europe	24	6.0	6.1	89.8
	North America	8	2.0	2.0	91.8
	Other	32	8.1	8.2	100.0
	Total	392	98.7	100.0	
Missing	System	5	1.3		
Total		397	100.0		

Respondents were also invited to provide any comments they wished to make on their study experiences related to each of the topics above, and the findings from analysis of those comments are discussed later in this chapter.

4.4.3 Analysis of survey data in Part B

Part B of the survey collected data on six topics based on the AT model and was structured to identify high levels of disagreement with statements relating to each topic. It also collected data on the students' perceptions of the importance of those statements in relation to their individual learning experiences. Details of the survey instrument and how data were collected are provided in Chapter 3. A summary of the results of statistical analysis of the survey data is provided in Appendix 8.

4.4.4 Summary of findings from analysis of students' survey responses

Disagreement - the ten highest ranking statements reflecting disagreement with survey statements (disturbances) are indicated below:

1. *Your studies have used group work and team work as an effective way of learning*
2. *Your studies have required too much time to be spent reading study materials, text books, and other materials*
3. *The university has enabled you to have sufficient access to experienced industry people from your field of study*
4. *The university has provided adequate pastoral support to help you deal with personal problems during the course of your studies*
5. *At the time you commenced your studies, the university has made adequate allowances for any disabilities that may have restricted your ability to undertake studies*
6. *Your studies have been structured and delivered in a way that encouraged you to learn from the knowledge and experience of other students*
7. *The university has been sensitive to cultural issues that affect your studies*
8. *Your studies have focused too much on the theory and not enough on practice*
9. *At the time you commenced your studies, the university has made adequate allowances to address the sense of isolation you may have felt as a distance education student*

10. The university has imposed rules and regulations that have restricted the way you wish to carry out your studies

Importance – The ten highest-ranking statements based on students' perception of the level of importance of the topic covered by survey statements are indicated below:

- 1. The university has provided teaching staff for each course who have appropriate skills and qualifications*
- 2. At the time you commenced your studies, the university has structured the academic program in such a way as to allow you to remain in full-time employment during your studies*
- 3. The university has used user-friendly technology for you to access the online environment*
- 4. The university has provided adequate study and support materials online*
- 5. The university has made clear the objectives of each course (subject)*
- 6. The university has provided adequate study and support materials in print form*
- 7. Your studies have given you a sense of pride and/or self satisfaction*
- 8. Your studies have helped you to develop the following attributes: In-depth knowledge of your field of study: A comprehensive and in-depth knowledge of your field of study, and defined professional skills for that field*
- 9. Your studies have helped you to develop the following attributes: Critical and creative thinking: The ability to collect, analyse and evaluate information and ideas and solve problems by thinking clearly, critically and creatively*
- 10. The university has made clear the objectives of the overall program of study*

The analysis of the survey statements has provided an insight into the nature and scope of disturbances from the students' perspective. It is of interest there were no common statements in the two ranked lists of statements, indicating that:

- Topics in statements reflecting the highest levels of disagreement do not align with topics that are of most importance to the students, and
- Topics in statements with the highest levels of importance do not align greatly with topics in statements reflecting high levels of disagreement.

A list of the ten highest-ranked statements based on level of disturbance is provided in Appendix 9, and a list of the ten highest-ranked statements based on level of importance is provided in Appendix 10.

The following section examines the comments provided by respondents at the end of each of the ten sections of the survey. Using the statements identified above from both dimensions of the survey responses as a structure, students' comments are analysed to identify disturbances that align with the topics underlying those statements.

4.5 Stage 3 – Students' comments in the web-based survey

4.5.1 Analysis of students' comments

Survey participants were invited to provide additional 'open' comments at the end of each of the ten sections of the survey. The students' comments were collated into a single document which represented a large volume of data for analysis. This section describes how two forms of analysis were carried out to identify disturbances from the students' perspective which could then be explored through the subsequent stage of focus groups. The two approaches to examination of the data create a means of triangulation and allow the findings to be compared for consistency:

- *Analysis 1* - A manual approach was initially undertaken for analysis of the comments to obtain a feel for the data and to identify further examples of disturbances indicated through analysis of survey responses detailed in the previous section of this chapter, and
- *Analysis 2* – A more detailed analysis was carried out using NVivo software (<http://www.qsrinternational.com>) to identify sources of disturbances.

4.5.2 Analysis 1

Analysis of students' comments – narrative summary of comments using the 'themes' of survey statements as a framework

In AT, tensions are the internal contradictions in a system that drive innovation and change (Engeström, 1987) and understanding the core tensions are critical to understanding the system itself (Barab, Barnett, & Squire, 2002, p. 504).

Contradictions are distinguished from disturbances in that many disturbances may map onto a single contradiction - disturbances are the visible manifestations of those underlying contradictions (Turner & Turner, 2001, p. 4). Each of the survey statements identified in the previous section contained an underlying 'theme' that represented a potential source of disturbance. For example, the survey statement that indicated the highest level of disturbance was "*Your studies have used group work and team work as an effective way of learning*" with an underlying theme of 'group work' or 'team work'. Within the AT framework, 'group work' can relate to Tools (assessment), Community and/or Division of Labour. The survey statement that indicated the highest level of 'importance' was "*The university has provided teaching staff for each course who have appropriate skills and qualifications*" with an underlying theme of 'skills and qualifications'.

Using the statements identified from analysis of the questionnaire responses (as identified in the previous section of this chapter), the students' comments were analysed to reveal disturbances that related to those underlying themes. Some themes have been grouped to include disturbances of a related nature. For example disturbances related to the theme of '*course objectives*' and '*program objectives*' have been combined as it is difficult to differentiate between comments relating to these two topics.

Taking the full list of statements identified from the analysis of the survey responses, the analysis below provides the following:

- The source of disturbance represented by the survey statement (in bold),

- The AT nodes to which it relates (Subject, Object/Outcomes, Tools, Community, Rules and Division of labour),
- A summary of the disturbances identified from the full list of comments, and
- Examples of students' comments illustrating the disturbances related to that statement.

Disturbance: Lack of group work and team work as an effective way of learning

(Community/Division of labour)

Students identified the following disturbances:

- the lack of 'contact' and 'connection' with other students and the inability to work with them in an environment that reflected their work practices – team work and group activities.
- group activities that impact adversely on their independent study routines and practices by being forced to depend on others for their progress and learning outcomes.
- discussion forums that offer little value in terms of learning or socialisation.

"I am the only one in my locality studying with USQ; some students do completely different fields which has limited my exchange of knowledge in discussion groups."

"We should have had at least 1 opportunity to submit assignment in groups of 2 if applicable. Especially, courses like 8027 where we talk about teamwork and coordination."

"...ensure groups get the most possible from the interaction rather than a skewed view from one or two 'strong' participants."

"I would to see some more innovation with something like a Podcast from one of on-course sessions or something similar. Or maybe a CD with a group

discussion (lecturer, practitioners, students) about some particular aspects/topic of the course.”

“Difficult to form study group”

Time for group studies and research and commitment and participation/contribution from the other members of your study group is a huge challenge.

Disturbance: Excessive time required for reading study materials, text books, and other materials

(Tools/Division of labour)

Students identified the following disturbances:

- the volume of reading material required,
- the need for extensive nominated reading materials when there is so much available electronic today
- the disparity of requirements between courses
- the lack of supporting materials in electronic form

“To get the highest marks possible, complete all the reading plus extra reading along with a full time job would have been impossible for me.”

“The law unit requires ridiculous levels of reading, up to 9 chapters a week...crazy.”

Disturbance: Insufficient access to experienced industry people from the field of study

(Community/Division of labour)

Students identified the following disturbances:

- the disparities between industry practices and those suggested by academic theory
- the lack of learning that reflects current industry practice

“Study book and some assignments are daunting and useless; don't reflect current industry best practices.”

“I want advice from someone who worked in the industry not spend their whole life just reading about it. Some of the advice we are given is an absolute joke. It is so easy to tell those who worked in the industry from those who didn't. Experience shows.”

Disturbance: Lack of clear expectations of non-academic support

(Community/Rules)

Students identified the following disturbances:

- the lack of a mentor to provide advice and support from a neutral, non-academic perspective,
- the lack of a non-course related forum for discussions about the learning experience

“It would have been nice to connect with someone as a mentor or study advisor that I could have asked the odd question to about the USQ system, quirks and other features i.e. some one who had an interest in me completing the program not just the current course(s). I think the program completion rate would vastly increase if students on a program of study were assigned such a pastoral mentor or advisor for the duration of their program. This is the sort of person who you can also blow off a load of steam to when faced with some irrationality in a course but don't want to sabotage fellow students or your lecturer's personal enthusiasm.”

Disturbance: Inadequate allowances for disabilities that impact on studies

(Rules/Division of labour)

Students identified the following disturbances:

- the need for consideration for students with disabilities or health-related issues

“Health issue caused periods of inability to perform to physical standards required to complete program at a high standard.”

“Pain (spinal injuries) - made it hard to complete reading and assessment tasks.”

“I was involved in a serious car accident which meant I had to stop studying mid semester.”

“Print should be bigger especially for people like myself who do have eye problems.”

Disturbance: Lack of opportunity to learn from the knowledge and experience of other students

(Community/Division of labour)

Students identified the following disturbances:

- the lack of ability to interact with fellow students and work colleagues as part of the learning process
- their inability to locate learning in the workplace for immediate application
- There is frequent mention of reflection on personal practices in the workplace relative to formal learning
- the lack of encouragement and moral support obtained from interaction with students who are at a more advanced stage of studies

“I sometimes find that I have to try and facilitate the group to ensure all are involved and none overwhelm the rest. It is not reasonable to expect staff to undertake this role and you don't want to group overseas students together as this cultural aspect is a great development opportunity for those who recognise it. But it's an issue to consider for future sessions to ensure groups get the most possible from the interaction rather than a skewed view from one or two 'strong' participants.”

“Personally I find the general lack of actual human contact during the learning experience frustrating.”

Disturbance: Lack of sensitivity to cultural issues

(Community/Rules)

Students identified the following disturbances:

- difficulties created by studies in meeting commitments to wide range of extended family members
- difficulties in fulfilling maternal commitments while undertaking studies during early years of motherhood
- the conflicts between study requirements and religious issues
- the lack of consideration of cultural differences in learning approaches
- ignorance on the part of the teaching staff as to the conditions under which students have to study

“In our south Asian society the family commitments take a lot of one's time. Not only your close family but extended family which relates to your uncles, aunts, cousin and sometimes even 2nd cousins and their family events are those where one is expected to participate.”

“Nursing a father with cancer and his eventual death, a separation, living in a war torn third world country, and an international migration.”

“My education has restricted my ability to study, especially the way of thinking. In my previous schools, I was taught to exactly follow what the Teachers taught. Creativity in doing assignments was completely restricted. I did have difficulties when I started to study.”

“Consider about the multi-cultural festivities. For example, DO NOT arrange exams exactly on the Chinese New Year or Hari Raya.”

“Personal relationship problems that have resulted in me relocating to another city requiring a change of job and residency.”

“On the other hand there are many religious activities in our Muslim society which come at various intervals and one is required to attend to those. All these have a lot of impact on one's time and it makes to control you own time very difficult.”

“Being a first time mother, learning how to effectively juggle the demands of my toddler, my part-time work, and recently, in the last six months, the health of my father has required me to spent time with doctor's appointments, looking after dad, visiting time in hospitals.”

“As part of an Italian background and a large extended family, my commitment to the extended family is a lot more involved and involves a high level of travel and time out to fulfil.”

“I am widowed, and supporting a child with hearing disability, needing my continuous attention, limiting my study time.”

Disturbance: Too much focus on the theory and not enough on practice

(Tools)

Students identified the following disturbances:

- tools, techniques and practices in study materials do not always reflect current best practice
- study tasks do not incorporate sufficient practical activities
- study tasks do not involve application of theory to practice

“Some of the tools and techniques recommended by the books are not being used in practical (particularly in Asia countries)”

“When I enrolled I expected the (program) to be some kind of management education supporting me in my day to day business. From my perspective, the studies still focus very much on the academic approach and less on practical management tactics. In my professional life I'm asked for practical solutions, not for theoretical background...”

“A bachelor's degree should be used to demonstrate theoretical abilities. Postgraduate studies should support students with practical approaches.”

Disturbance: Inadequate support to address the sense of isolation

(Community/Division of labour)

Students identified the following disturbances:

- lack of support to overcome geographical isolation and emotional isolation
- failure to address issues associated with geographical isolation including lack of learning resources and lack of access to suitable technology
- lack of support for emotional isolation raises issues with motivation, withdrawal, despondency, lack of direction, continuity, lack of contact with other students,

“Nature of the beast, but feel very isolated. No support network to have any one to one contact.”

“Though my family was supportive during my studies, I always felt guilty and isolated due to the fact that I spent most of the time I would ordinarily...have been with the family, on the computer or studying.”

“I find I feel very isolated as I have done all my studies by distance education. The ability to just have a decent discussion on study issues has not been available. Sometimes there is a need for some contact with lecturers.”

Disturbance: Restrictive rules and regulations

(Rules/Community)

Students identified the following disturbances:

- rules, regulations, policies, and practices that add to their difficulties and frustration
- lack of flexibility to deal with the diversity of students' problems and constraints
- unnecessary complications caused by rigid application of rules such as differential fees, mode of study, entitlement to materials, and entitlement to library services
- inconsistency in requirements such as the volume of work required for each course
- policies, practices, and behaviour of agents where they differ from those of the main campus
- rules and regulations that do not reflect the nature and circumstances of postgraduate students and their difficulties with studying whilst in full-time employment
- rigidity of examination policies
- inflexibility of course offerings that cause disruptions to study progression and completion
- financial losses resulting from inability to complete courses or programs where external factors disrupt studies

- requirement to purchase specific text books where other equivalent alternatives exist
- lack of flexibility in entry requirements, rate of progression and alternative study pathways
- rigid alignment between on-campus programs and schedules and those offered externally
- inflexibility in submission of assignments and excessive penalties for late submission
- mandatory electronic submission of assessment
- inconsistency in assessment practices between courses within programs
- inconsistent exemption policies
- regulations preventing students from being in more than one program at a time
- inconsistent practices for marking of assessment
- requirement for examinations at postgraduate level study
- inconsistent requirements regarding referencing across courses and programs
- assessment practices designed for convenience of University and course leaders rather than for learning outcomes
- late delivery of learning materials

“USQ should consider recognising of prior studies and experience, which in PM can be evidenced through Project Management plans, project reports etc.

As I was willing to fund all my expenses including travel and accommodation to attend the only workshop I was available to attend, I was puzzled when informed that because my mode of enrolment was EXT and not ONC I couldn't attend. I really wonder what the problem was.”

“If the aim of USQ is meet an aged mature market, then it is important that students be treated as adults, and the vagaries and variabilities of life is reflected in the rules and pronouncements made to students.”

“Because of health problems and moving with my job, I have failed a couple of subjects and I have not been able to resubmit. I therefore have wasted money.”

Disturbance: Teaching staff with inappropriate skills and qualifications

(Community/Division of labour/Tools)

Students identified the following disturbances:

- ‘one course leader does all’ model rather than involvement of multiple experts in relevant disciplines covered by materials
- poor quality of local tutors working for agents
- poor English language skills on the part of some academic staff
- lack of empathy by teaching staff for students’ circumstances
- lack of respect for students who have a sense of being patronised by staff who appear to be arrogant or indifferent
- negative comments by staff on discussion boards
- double standards where students are not allowed to submit assignments late, but course leaders can be late in marking, or be absent from campus leaving students without a point of contact or guidance while preparing assignments
- lack of recognition or acknowledgement of students’ advanced standing in industry or business
- failure by course leaders to clearly communicate specific requirements where they differ from course to course
- rigid and prescriptive requirements for assessment

“I want advice from someone who worked in the industry not spend their whole life just reading about it. Some of the advice we are given is an absolute joke. It is so easy to tell those who worked in the industry from those who didn’t. Experience shows.”

“The Tutor of Local agency is not well trained with tutorial skills and EXT students will suffer from their misrepresentation and miscommunication”

“USQ lecturers have been slow to guide the critical thinking of students. They have instead tended to just present their view, and expect students to go out and find confirming evidence.”

“The University's partner i.e. the lecturers here in (country) do (sic) not have the aptitude to carry out the lectures.”

“Not qualified lecturers, and slow in problem solving.”

“Have those lecturers ever had a real job in their lives or just moved from doing their thesis into a lecturing job.”

“The subject matter expert is essential, but perhaps other staff with skills in stimulating online discussions and participation could also collaborate in each course.”

“In some cases it has been clear that English is not the first language of the lecturer. I.e. they can't even understand the questions put to them and the answers do subsequently not answer the question. Eventually people just give up.”

“(Course leader) who really affected me in a bad way. No leadership skills whatsoever, and no manners either. I feel it was inadequate to hang up the phone when a student calls for help. He did it.”

“USQ staff are a bit fixed on their pet ideas. Consequently, as a student you have to give them the answer they are looking for, or suffer lower marks.”

“In some subjects we need lecturers with experience enough (working experience) to convey interesting information.”

“The level of critical analysis evidenced by USQ staff is lower than I expected”

“Others treated students as immature and irresponsible, and made demands that were more appropriate at secondary level.”

“For a mature person with a good career I found it patronising when at Masters Level we get treated as undergraduate students.”

“Critical and creative thinking was punished with bad marks, so in the end I stuck to the promoted point of view in order to keep good grades.”

“Differences between subjects in terms of lecturer support and attitudes,”

“I had a very very bad experience with (academic staff member), and was totally disappointed with his behaviour as being non-constructive.”

“I feel that more consideration needs to be given to the support of distance students in the areas of contact with lecturers.”

“I have had one occasion where the course leader was inflexible on an assessment item, without being clear in their communication on their expectations in the course materials.”

“The quality of service to external students is less than I expected...the actual contact with teaching staff through discussion board is often cold and impersonal, and some staff seem grumpy/defensive in their on-line interactions.”

Disturbance: Lack of consideration for students in full-time employment during studies

(Community/Rules/Division of labour)

Students identified the following disturbances:

- lack of flexibility to deal with conflicts between study and employment commitments including travel away from home country
- lack of consideration for students who are self-employed and unable to predict workload patterns
- Location of employment on remote sites can create added difficulties with communications, access to resources, submission of assignments, attendance at examination sites
- Conflicts between work commitments, assignment due dates and examination dates create difficulties, and lack of flexibility

“No one has ever shown any consideration for our personal or work commitments. If anyone mentions it the reply we get is that at Masters level we should know how to manage our time better. How rude and patronising. We are people running million dollar businesses and the reply we get is that we should learn to manage our time better. What an insult!”

“This semester I have had to drop the core subject I was studying as work commitments are my priority and there was not adequate time to study the enormous amount of material. This course was meant to be a core subject aimed at general managership however the subject matter was too complex for me, given that I had limited time to comprehend it.”

“Flexibility is an important issue with students who are in full-time employment. It is often difficult to keep to established deadlines. My problems have been compounded by financial circumstances out of my control and a raft of personal issues that are attached to that.”

“Due dates for projects at work that may change cause problems with assignments due dates.”

“Work commitments and inflexible exam timetable from USQ.”

“I am on full-time employment with the Belgian Development Cooperation Agency. My job involves a lot of travelling (sometimes to countries with no e-mail facilities) and this has affected my studies.”

“Variable work loads in my career - peaks and troughs which were not foreseeable, making...my ability to undertake coursework very difficult (if not impossible).”

“I was often called on ad-hoc basis to assist and resolve outstanding operational issues, where relevant. These 'interruptions' and 'unplanned' activities did affect my productivity and studies.”

“Studies would have to take second or third place behind work and family.”

“Until July last year my work involved long hours including weekends and considerable amounts of ...overnight travel. This limited the amount of time available to me for the course.”

“I have had to travel extensively within the country, leading several project teams, reducing available time to concentrate on studies. Other times there is so much to do in making decisions, looking for information, design reviews etc that I am so tired both physically and mentally to study after work.”

“As my work involves supporting contingency operations, it is not what you would call "9 to 5", but rather I work between 60 and 90 hours per week, 7 days per week with an occasional day off. Therefore, while I try to plan my studies, sometimes work gets in the way!”

“Most of the locations are located in remote areas with limited electricity facilities and others. As such sometimes it is difficult for me to complete my assignments in time although I always try my best to be within the dead line, lack of electricity and reference materials makes it extremely difficult.”

“At least some flexibility should be allowed considering that most postgraduate studies are for people engaged in some commitments at work.”

“Working hours and funding for study are the basic consideration before continue my study.”

“Balancing Work and Family Commitments, particularly with overseas travel and residence can make it difficult to study.”

Disturbance: Access to and use of technology

(Tools/Division of labour)

Students identified the following disturbances:

- lack of consideration for students working in remote locations and countries (such as Africa) with limited access to information and communication technologies for study, participation in discussion forums, communication with academic staff and other students, and submission of assessment
- failure to provide CD-ROMs that offset lack of internet access to learning materials
- unwillingness of course leaders to deal with unusual file formats for submission of assessment items
- failure to utilise electronic resources such as e-text books and podcasts
- failure to provide external students with learning resources prepared for on-campus activities such as workshops that external students are unable to attend
- technical problems associated with educational technologies
- poor utilisation of discussion forums for development of social presence
- cumbersome discussion forums for large classes
- failure to provide opportunities for development of students' skills in use of educational technologies
- the lack of training and support available for the use of nominated specific software (e.g. Microsoft Project)

“Currently located in China and access to some sites for reference material was limited by the "Great Firewall", reasons unknown.”

“In Africa bandwidth is a real scarce commodity. I have been in situations where it has been a real challenge to access information necessary for my studies.”

“Till we have electronic books that actually work”

“A CD-ROM of reading would have made life so much easier.”

Disturbance: Inadequate study and support materials online

(Tools/Division of labour)

Students identified the following disturbances:

- Online materials are often not available in some courses whereas they are available in others in the same program
- The quality of online materials is inconsistent and often of poor quality such as PDF files
- The nature of online materials is sometimes inappropriate (e.g. videos) where download facilities are limited
- The value of online materials is lost when computing facilities are not adequate
- The value of having materials available online is lost when that is the only means of access and it is difficult or impossible because of circumstances beyond the student control

“Distance or online education is good if students get all the facilities they need to complete the degree. But for example if we take the branches like one we got at (location), students are facing lots of problems such as no proper faculty, no good computer facilities.”

“Provided more choices of study modes in the online system.”

“Problems resourcing research material from USQ online library.”

“Receiving study materials online is perhaps OK at campus network speeds but not really ideal for dial up connections.”

“The online experience has been better in some courses than others. Some USQ courses are basically print courses that have been PDFs and put up on WebCT with little or no thought or customisation for Web delivery. Such courses are really boring.”

Disturbance: Lack of clear course and program objectives

(Object/Outcomes)

Students identified the following disturbances:

- Program objectives were not always well defined
- Course objectives were not always well defined

“...my initial expectations have not been met completely.”

“The objectives have not always been clearly defined.”

“(Course leader) was totally unrealistic of expectations; they were absolutely out of control.”

“If lecturers have specific requirements, they need to make them clear from the start, otherwise, particularly for external students, there's no way of us knowing what they are!”

“They give lots of marks to 'correct interpretation of the topic'. They are not interested in writing more open marking schedules that permit more scholastic freedom to students: The convenience of their marking process seems more important than the student's learning.”

Disturbance: Inadequate study and support materials in print form

(Tools/Division of labour)

Students identified the following disturbances:

- the lack of locally-available materials for offshore students
- Inability to access local libraries
- the difficulty in obtaining set texts locally offshore
- the high cost of purchasing set texts (many of which have limited use)
- failure to provide case studies to supplement learning resources
- inconsistent quality of learning materials provided by the University
- inability to access University library services by external students who live close to Toowoomba
- failure to provide students with a choice in the medium used for distribution of learning resources – print versus electronic
- failure by the University to deliver learning resources on time
- inadequate access to computer facilities to take advantage of electronic materials
- poor quality of study materials provided by offshore agents and tutors
- out-dated selected readings to support learning materials

“For myself, study materials especially for project management are very limited. Even local public library does not have relevant books that can help in my study i.e., project management. Some of the books are outdated.”

“Some books are so bad - I would never buy something that poorly written and full of mistakes like that accounting book written by people from USQ. Shame, shame, shame to put something that bad in print and force students to buy it.”

“Being online student also meant that, unlike on campus students, you have no access to the University physical reading material.”

Disturbance: Failure to meet student needs and objectives

(Object/Outcomes)

Students identified the following disturbances:

- Absence of industry and career-enhancement focus in program design
- Failure of program design to provide challenge for students across all standards
- Failure to consider students' learning needs and objectives including:
 - meeting employer requirements and expectations
 - to update professional skills and career development within discipline
 - to challenge existing knowledge and experiences
 - to provide motivation to achieve learning objectives
 - to gain relate studies to certification requirements of professional bodies

“I was looking for something challenging that extended my existing knowledge and experience, motivated me to put in the effort required, and was enjoyable. Unfortunately I found that the chosen course did not satisfy any of these objectives.”

“I do not feel that my postgraduate studies have developed my communication, thinking or social interaction skills. I believe distance education does little to promote these attributes. I feel that I will leave this course with the same skills, but with a broader knowledge.”

“My employer demands her project manager to be certified PMPs (PMI).”

“I do not feel that my postgraduate studies have developed my communication, thinking or social interaction skills. I believe distance education does little to promote these attributes. I feel that I will leave this course with the same skills, but with a broader knowledge.”

“I have acquired a lot of knowledge but not always the increase in intellectual depth I had hoped for.”

Summary of findings of Analysis 1

This analysis has revealed disturbances that are contained in the students' comments from the survey and these may be summarised briefly as follows:

Support from the University

- Rules and regulations appeared to be weighted in favour of University outcomes rather than consideration of the students' circumstances
- There is insufficient flexibility in learning activities and assessment to cater for postgraduate students with competing commitments from employment and family
- There were instances of cultural insensitivity in the learning environment
- Inadequate support services existed to overcome feelings of isolation
- Learning support was not available from academic sources other than the course leader

Academic leadership

- Some teaching staff lacked the appropriate current professional experience and qualifications to teach at postgraduate level
- Program and course objectives were not always aligned, nor were they clearly defined and communicated

Collaboration and interaction with fellow students

- Students recognised the lack of opportunity to interact with other students and to learn in a collaborative environment that reflected professional practice

Industry and workplace

- Not enough opportunities to develop practical skills nor to learn from practitioners in the profession

Learning resources

- Learning resources required large amounts of reading which did not necessarily contribute to achieving the learning objectives of a vocationally-oriented program for professional development
- Some students had little access to printed learning resources and were disadvantaged because of the lack of access to appropriate technology and the internet to participate in learning activities and to access learning resources

4.5.3 Analysis 2

Analysis of students' comments using NVivo

Analysis 1 has explored the students' comments by grouping disturbances under the major themes (or topics) identified from the responses to the statements. To gain an alternative perspective on the disturbances revealed by the survey data, a computer-based analysis using NVivo was carried out using AT as a framework for coding the data and to identify the concepts relating to the major disturbances. This process acts as a means of triangulation to confirm the findings of analysis 1 (Creswell & Piano Clark, 2007).

The file containing all students' comments from the ten sections in the survey was entered into the NVivo program for analysis. The initial coding process created a large number of concepts (or 'nodes') and these were reviewed and 'collapsed' to combine similar concepts until a saturation point had been reached when no new concepts were being identified. The most-common disturbances identified from this analysis are indicated in Table 4.17 and reflect similar topics derived from analysis 1. Examples of students' comments to illustrate these disturbances are provided under the respective headings throughout analysis 1 and are not repeated here for the sake of brevity.

Table 4.17: Fifteen most-common concepts associated with disturbances in students' comments

(Top ten concepts are shown shaded)

Rank	NVivo nodes (concepts) that show disturbances related to:
1	Lack of clear expectations of teaching staff
2	Lack of consideration for students in full-time employment during studies
3	Failure to meet student needs and objectives
4	Teaching staff with inappropriate skills and qualifications
5	Assessment in the form of assignments
6	Support from non-academic staff
7	Conflicts between studies and family commitments
8	Restrictive rules and regulations
9	Access to and use of technology
10	Lack of group work and team work as an effective way of learning
11	Inadequate study and support materials online
12	Issues related to ethics, equity & fairness
13	Discipline studies related to project management
14	Achievement of study objectives
15	Lack of flexibility and innovation

4.5.4 Summary of findings from the survey analysis

The findings of this analysis are consistent with the conclusions drawn from Analysis 1 and identify disturbances related to:

- the existence of restrictive rules, regulations and policies imposed by the University,
- the nature of interaction with academic staff and their attitude towards students,
- the lack of interaction with fellow students,
- the need for flexibility to minimise the conflict between study commitments and workplace commitments,
- assessment practices particularly those involving assignments,
- the nature and quality of learning resources, and
- the availability of technology to access learning resources and to participate in learning activities.

4.6 Stage 4 - Analysis of data from focus groups

4.6.1 Derivation of focus group topics

Analyses of the responses to the survey statements and the open-ended comments provided by the students within the survey have identified the predominant sources of disturbances. As an important task of qualitative research is to consider alternative interpretations of the data (Dey, 1993), the results of the analyses of the survey responses and students' comments were collated as indicated in Table 4.18 to identify those disturbances to be submitted for further investigation using focus groups.

Table 4.18: Comparison of ranked findings from analyses 1 and 2

	Highest ranking sources of disturbance based on analysis of responses to survey related to 'disagreement' (see Analysis 1)	Highest ranking sources of disturbance based on analysis of responses to survey related to 'importance' (see Analysis 1)	Highest ranking sources of disturbance based on thematic analysis of students' comments in survey (see analysis 2)
1	Lack of group work and team work as an effective way of learning	Teaching staff with inappropriate skills and qualifications	Lack of clear expectations of teaching staff
2	Excessive time required for reading study materials, text books, and other materials	Lack of consideration for students in full-time employment during studies	Lack of consideration for students in full-time employment during studies
3	Insufficient access to experienced industry people from the field of study	Access to and use of technology	Failure to meet student needs and objectives
4	Lack of clear expectations of non-academic support	Inadequate study and support materials online	Teaching staff with inappropriate skills and qualifications
5	Inadequate allowances for disabilities that impact on studies	Lack of clear course objectives	Assessment in the form of assignments
6	Lack of opportunity to learn from the knowledge and experience of other students	Inadequate study and support materials in print form	Support from non-academic staff
7	Lack of sensitivity to cultural issues	Failure to meet student needs and objectives for sense of pride and self satisfaction	Conflicts between studies and family commitments
8	Too much focus on the theory and not enough on practice	Failure to meet student needs and objectives for in-depth knowledge/skills in field of study	Restrictive rules and regulations
9	Inadequate support to address the sense of isolation	Failure to meet student needs and objectives for critical/creative thinking skills	Access to and use of technology
10	Restrictive rules and regulations	Lack of clear program objectives	Lack of group work and team work as an effective way of learning

Table 4.19 lists the sources of disturbance identified from analysis of the survey, arising from interaction between the student and dimensions of their distance education learning experience including:

- *Learner-content*;
- *Learner-instructor*, and
- *Learner-learner* (Moore, 1989; Woods & Baker, 2004).

Although theoretical frameworks relating to interaction have been extended to *teacher-content*, *teacher-teacher*, and *content-content* (Anderson, 2003; Anderson & Garrison, 1998), more recent studies have taken a focus on the pedagogically significant dimensions of engagement and communication - these are of most interest for this study (Woods & Baker, 2004). The concept of interaction is closely aligned with AT in that identification of the sources of disturbances requires examination of:

- the interaction between the student and other members of the community that are involved in the activity being investigated,
- the interaction between the student and the tools that are required for learning tasks and activities, and
- the interaction between the student and the learning institution through rules and policies that regulate the learning environment.

Based on the analyses of data collected through the survey, the major dimensions of interaction from the student perspective are indicated in Table 4.19, which relates the source of disturbance to the dimension of interaction and the relevant nodes of AT.

Table 4.19: Summary of sources of disturbance and dimensions of students' learning experience

Major sources of disturbance identified from overall analysis of the survey (this is a consolidated list derived from Table 4.18 and is not in any rank order)	Interaction between the student and the dimensions of their learning experience (showing relevant nodes of AT in brackets)
Lack of group work and team work as an effective way of learning	The peer group (Community/Division of labour)
Excessive time required for reading study materials, text books, and other materials	The learning resources (Tools)
Insufficient access to experienced industry people from the field of study	The workplace (Community/Division of labour)
Lack of clear expectations of non-academic support	The learning institution (Rules)
Inadequate allowances for disabilities that impact on studies	The learning institution (Rules)
Lack of opportunity to learn from the knowledge and experience of other students	The peer group (Community/Division of labour)
Lack of sensitivity to cultural issues	The learning institution (Rules)
Too much focus on the theory and not enough on practice	The learning resources (Tools)
Inadequate support to address the sense of isolation	The learning institution (Rules)
Restrictive rules and regulations	The learning institution (Rules)
Teaching staff with inappropriate skills and qualifications	The academic facilitator (Community/Division of labour)
Lack of consideration for students in full-time employment during studies	The workplace (Community/Division of labour)
Access to and use of technology	
Inadequate study and support materials online	The learning resources (Tools)
Lack of clear course objectives	The academic facilitator (Community/Division of labour)
Inadequate study and support materials in print form	The learning resources (Tools)
Failure to meet student needs and objectives for sense of pride and self satisfaction	The academic facilitator (Community/Division of labour)
Failure to meet student needs and objectives for in-depth knowledge/skills in field of study	The academic facilitator (Community/Division of labour)
Failure to meet student needs and objectives for critical/creative thinking skills	The academic facilitator (Community/Division of labour)
Lack of clear program objectives	The academic facilitator (Community/Division of labour)
Lack of clear expectations of teaching staff	The academic facilitator (Community/Division of labour)
Lack of consideration for students in full-time employment during studies	The learning institution (Rules)
Teaching staff with inappropriate skills and qualifications	The academic facilitator (Community/Division of labour)
Assessment in the form of assignments	Assessment (Tools)
Support from non-academic staff	The learning institution (Rules)
Conflicts between studies and family commitments	The learning institution (Rules)
Access to and use of technology	Technology (Tools)

Table 4.19 illustrates the nature of student interaction from which the disturbances have arisen, and these may be summarised as follows:

- ***Student-learning institution*** – disturbances have arisen in the course of interaction by students with the learning institution including a lack of clear expectations, lack of appropriate support, restrictive rules and regulations, and lack of sensitivity to cultural issues,
- ***Student-academic facilitator*** – disturbances have arisen in the course of interaction by students with the academic facilitator including lack of empathy for students, inappropriate skills and qualifications, and lack of industry experience.
- ***Student-peer group*** – disturbances have arisen in the course of interaction by students with their peers including lack of interaction, lack of opportunities for collaborative learning activities, and the lack of opportunity to learn from the knowledge and experience of other students.
- ***Student-workplace*** – disturbances have arisen in the course of interaction by students with their workplaces including conflicts between study commitments and work-related commitments, lack of integration between learning tasks and workplace practices and lack of involvement of industry practitioners in the learning community.
- ***Student-learning resources*** – disturbances have arisen in the course of interaction by students with the learning resources including excessive, inappropriate and out-dated study materials, and difficulties in accessing additional resources.
- ***Student-assessment*** – disturbances have arisen in the course of interaction by students with assessment tasks including inappropriate and irrelevant formative assessment tasks and inflexible policies relating to submission and timing of examinations.
- ***Student-technology*** – disturbances have arisen in the course of interaction by students with technology including difficulties with gaining access to educational technologies. However there were few disturbances related to the students' actual use of technology for learning tasks and activities.

- ***Student-family*** – disturbances have arisen in the course of interaction by students with their families including conflicts arising from competing family and study commitments.

In order to investigate those dimensions of the students' learning experience that give rise to the major disturbances, the following six topics were used as a structure for further investigation using focus groups as indicated in Table 4.20. There were few disturbances from the actual use of technology and disturbances related to access to technology and its value in learning are considered as part of the student/learning institution interaction. Disturbances related to conflicts between student/family are considered in terms of flexibility as part of the student/learning institution interaction.

Table 4.20: Topics used as a structure for the focus groups

Focus group topics
The learning institution
The academic facilitator
The peer group
The workplace
Learning resources
Assessment

4.6.2 Analysis of nominal group data

An important dimension of AT is that 'collective expertise' (Engeström, 2000, p. 960) is utilised in the analysis of data. This provides multiple perspectives to progressively examine the interim research findings and to suggest solutions based on collaborative decision-making by members of the community.

Each nominal group session generated between 13 to 35 suggestions and consensus was reached on the scoring and ranking of suggestions generated for the topic in each strand. The ten highest-ranked suggestions from each session were chosen for further analysis as these provided a good representation of the views of the nominal group participants. Beyond the ten highest-ranked suggestions, scores allocated to suggestions were low and were seen as being of minimal value. As the group of ten

highest-ranked suggestions contained more than ten actual suggestions in three instances, the nominal group process has provided a total of 64 suggestions as indicated in Table 4.21.

Table 4.21: Suggestions derived from the nominal group sessions

Strand No.	Nominal group topic	No. of suggestions in group of top ten rankings
A	The learning institution	10
B	The academic facilitator	10
C	The peer group	11
D	The workplace	10
E	The learning resources	12
F	Assessment	11
	Total no. of suggestions	64

The full list of suggestions derived in each of the focus group sessions is provided in Appendix 11. The ten highest-ranked suggestions in rank order for each of the six nominal group sessions are discussed below and listed in Tables 4.22 to 4.27.

4.6.3 Focus group for Strand A: The learning institution

Previous analysis of students' comments indicated in Table 4.19 has identified the following sources of disturbances that arise from interaction by the students with the learning institution:

- *Lack of clear expectations of non-academic support*
- *Inadequate allowances for disabilities that impact on studies*
- *Lack of sensitivity to cultural issues*
- *Inadequate support to address the sense of isolation*
- *Restrictive rules and regulations*
- *Access to and use of technology*

Nominal group participants were asked to respond to the request below giving consideration to the students' comments:

Please suggest a number of ways to make the LEARNING INSTITUTION more relevant and valuable to the students' distance education learning experience.

The ten highest-ranked suggestions are listed below in Table 4.22, together with the respective score, overall ranking and the AT nodes to which the suggestion most closely aligns.

Table 4.22: Suggestions to address disturbances related to the learning institution

No.	Highest ranking suggestions (ranked 1 to 10)	Score	Rank	AT node
A1	• Pedagogically and procedurally sound policies and implement them consistently	18	1	Rules
A2	• Implement strategies to improve learning and teaching skills of staff through recruitment and development and promotion	9	2	Community Division of labour
A3	• Emphasise human aspects of the institution	8	3	Community Rules
A4	• Bring learning and teaching to the centre e.g. academic workloads that reflect reality. We need academic staff to teach more in time, more in terms of developing skills, creating it is as a prestigious occupation	8	3	Community Division of labour
A5	• We need to take a developmental approach to learning as opposed to a deficit approach	8	3	Division of labour Community Object
A6	• Institutional process to look at quality of courses and their content – outdated material, quantity of material including peer review	7	6	Rules Tools
A7	• Create a community of practice type mentality and provide environment for collaborative communication at a program level	7	6	Community Division of labour
A8	• We need to maintain an institutional relationship with students from their first enquiry through to their membership of the alumni	7	6	Community Outcomes
A9	• More strategic student support, better planned, better resourced, and better implemented	7	6	Community Division of labour
A10	• Create a program based website for news, current events, job opportunities, common resources	5	10	Tools

As an aid to the development of the conceptual framework, dominant themes emerging from the nominal group suggestions include:

- Provide consistency in the development of policies and procedures related to distance education and their implementation.
- The University should recognise the centrality of teaching and learning as a profession and as an activity within the University.
- Resurrect the ‘humanity’ of the organisation in keeping with its origins as a community-focused regional learning institution.

- The University has an important role as a gate-keeper for the quality of all aspects of teaching and learning at a distance.
- The University has a central responsibility for providing support for both academic staff and students.
- Relationship-building should be a core activity of the University administration and academic staff with distance education students.
- Communities of practice should be encouraged at all levels.

4.6.4 Focus group for Strand B: The academic facilitator

Previous analysis of the students' comments indicated in Table 4.19 has identified the following sources of disturbances that arise from interaction by the students with the academic facilitator:

- *Teaching staff with inappropriate skills and qualifications*
- *Too much focus on the theory and not enough on practice*
- *Lack of consideration for students in full-time employment during studies*
- *Lack of clear course and program objectives*
- *Failure to meet student needs and objectives*

Nominal group participants were asked to respond to the request below giving consideration to the students' comments:

Please suggest a number of ways to make the role of the ACADEMIC FACILITATOR more relevant and valuable to the students' distance education learning experience.

The ten highest-ranked suggestions are listed below in Table 4.23, together with the respective score, overall ranking and the AT nodes to which the suggestion most closely aligns.

Table 4.23: Suggestions to address disturbances related to the academic facilitator

No.	Highest ranking suggestions (ranked 1 to 10) (Where the members of the nominal group saw suggestions as alike, they have grouped them as a single	Score	Rank	AT node
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	suggestion)			
B1	<ul style="list-style-type: none"> • Staff development in facilitation skills, elearning and manage discussion groups. • Professional development for staff, workshops with role plays, web resources (professional development), online discussion. • Facilitators to study as an external student in unfamiliar area. • All online facilitators should do an online course with an excellent facilitator. • Provision of a facilitating mentor for courses leaders. • Academic staff require skills and training to support dealing with international student cohorts. • Mandate training 	15	1	Community Division of labour
B2	<ul style="list-style-type: none"> • Provide rewards, encourage good practice through rewards. • Review reward structure – what supports good teaching? • Financial recognition 	15	1	Rules
B3	<ul style="list-style-type: none"> • Realign the budget to emphasise teaching much more 	13	3	Rules Tools
B4	<ul style="list-style-type: none"> • Staff priorities need to be aligned with University priorities – for example, the primary role of distance education and the ongoing nature of distance education 	9	4	Division of labour
B5	<ul style="list-style-type: none"> • Service agreement – USQ level or faculty level or program level – defining level of service of facilitators. • Mandating some training – quality of service – depends on the role of the academic. • Let students know how often you visit the discussion forum so they're not left wondering 	7	5	Community Division of labour
B6	<ul style="list-style-type: none"> • Find mechanisms to engage the unconverted course leaders and review USQ and faculty policies 	4	6	Community Rules
B7	<ul style="list-style-type: none"> • Community of practice, meeting of the examiners of a program so they share ideas – current workloads do not allow to meet at the program level – providing consistent approach and level of service. • Learning communities for facilitators to share ideas and support each other 	3	7	Community Division of labour
B8	<ul style="list-style-type: none"> • Industry experience – recognise we need to have people who have industry experience. recognition of staff workplace skills – 	3	7	Community Division of labour
B9	<ul style="list-style-type: none"> • Improve our feedback system from students 	3	7	Tools Community
B10	<ul style="list-style-type: none"> • LTSU and others to advise on design and implementation of online courses – instructional design 	2	10	Division of labour Community

As an aid to the development of the conceptual framework, dominant themes arising from the nominal group suggestions include:

- Academic staff require ongoing professional development through training, support and mentoring in teaching at a distance.
- Academic staff should receive recognition for good distance education teaching practices and these should be rewarded through promotion and allocation of funding for research and training.
- All University staff should be aware of organisational priorities related to teaching and learning at a distance so that teaching practices can be better aligned.
- The importance of distance education as a core function of the University should be emphasised so that all academic staff are encouraged to become involved.
- The value of industry experience of academic staff and development of teaching skills for situated learning should be emphasised and encouraged, as postgraduate studies in professional disciplines require situated learning with a strong workplace focus.
- Communities of practice at course and program levels and across all sectors should be encouraged.

4.6.5 Focus group for Strand C: The peer group

Previous analysis of students' comments indicated in Table 4.19 has identified the following sources of disturbances that arise from interaction by the students with their peer group:

- *Lack of group work and team work as an effective way of learning*
- *Lack of opportunity to learn from the knowledge and experience of other students*

Nominal group participants were asked to respond to the request below giving consideration to the students' comments:

Please suggest a number of ways to make their PEER GROUP more relevant and valuable to the students' distance education learning experience

The ten highest-ranked suggestions are listed below in Table 4.24, together with the respective score, overall ranking and the AT nodes to which the suggestion most closely aligns.

Table 4.24: Suggestions to address disturbances related to the student peer group

No.	Highest ranking suggestions (ranked 1 to 10)	Score	Rank	AT node
C1	<ul style="list-style-type: none"> Learning circles - contact details of other students available to other students - one or one contact or groups. Learning circles - not enough encouragement for students to use them, lack of understanding, who to contact, how to create 	12	1	Community Division of labour
C2	<ul style="list-style-type: none"> Explain to the students the value of social learning 	11	2	Community Division of labour
C3	<ul style="list-style-type: none"> Create an interactive environment - Second Life - one on one or group format. Second Life - online simulation series of simulation predefined by the course leader - synchronous activity - able to see each other creating a simulation in a virtual environment 	9	3	Tools Community
C4	<ul style="list-style-type: none"> Create a social space to obtain academic and non academic services - course communities and program communities 	9	3	Community Tools
C5	<ul style="list-style-type: none"> Allow guest speakers on the discussion board - industry involvement 	9	3	Community Division of labour
C6	<ul style="list-style-type: none"> Distributed group - course or program - find a way to teach students skills in social interaction in an online environment 	9	3	Community Division of labour
C7	<ul style="list-style-type: none"> Lecturer to participate in discussion boards - academic participation. Course leader to act as role model to students for use of discussion boards or any other tools. 	7	7	Division of labour Community Tools
C8	<ul style="list-style-type: none"> Social web conferencing tools - Illuminate, Camtasia 	5	8	Tools Community
C9	<ul style="list-style-type: none"> Time-poor students - tool use optional - poor Internet connections etc 	6	8	Tools
C10	<ul style="list-style-type: none"> Think about the role of the lurker 	3	10	Community
C11	<ul style="list-style-type: none"> Encourage regional face-to-face study groups promoted by the lecturer 	3	10	Community Division of labour

As an aid to the development of the conceptual framework, dominant themes emerging from the nominal group suggestions include:

- Provide greater interaction between distance education students and cohorts through the formation of learning circles to capture the benefits of social learning.

- Achieve a more interactive learning environment through the utilisation of learning technologies for learning activities, for social activities and for student support.
- Online learning environments should utilise guest participants from related industries and capture these events for asynchronous learning activities.
- Academic facilitators should act as role models through active participation in synchronous and asynchronous learning activities on discussion forums.
- All distance learners should be encouraged to engage in social learning activities.

4.6.6 Focus group for Strand D: The student's workplace

Previous analysis of the students' comments in Table 4.19 has identified the following sources of disturbances that arise in the course of interaction by students with their workplace:

- *Insufficient access to experienced industry people from the field of study*
- *Lack of consideration for students in full-time employment during studies*
- *Failure to meet student needs and objectives*

Nominal group participants were asked to respond to the request below giving consideration to the students' comments:

Please suggest a number of ways to make the students' WORKPLACE more relevant and valuable to the students' distance education learning experience.

The ten highest-ranked suggestions are listed below in Table 4.25, together with the respective score, overall ranking and the AT nodes to which the suggestion most closely aligns.

Table 4.25: Suggestions to address disturbances related to the student's workplace

No.	Highest ranking suggestions (ranked 1 to 10)	Score	Rank	AT node
D1	<ul style="list-style-type: none"> • Make assessment more relevant to student workplace. • Design learning activities and assessment that value add to the workplace – workplace-focused assessment 	16	1	Tools Division of labour Community Outcomes
D2	<ul style="list-style-type: none"> • Develop more flexible academic calendar – flexible start and finish and assessment 	13	2	Rules
D3	<ul style="list-style-type: none"> • Review of the lack of 24 x 7 support and its implications for students' ability to cope with their studies and work 	11	3	Community Division of labour Rules
D4	<ul style="list-style-type: none"> • Make clear the level of commitment to study and warn students who are at risk – work life balance 	8	4	Division of labour
D5	<ul style="list-style-type: none"> • Examiners to value student work experience – recognition of workplace learning and use in assignments 	7	5	Rules Division of labour
D6	<ul style="list-style-type: none"> • Faculty writes to employer of each student to thank them for their support 	6	6	Community Division of labour
D7	<ul style="list-style-type: none"> • Longer semesters – students are time poor – decrease the size of courses to allow for external work commitments 	4	7	Rules Tools
D8	<ul style="list-style-type: none"> • Standard assignment extension policy in program – consistent assignment policy 	4	7	Rules Division of labour
D9	<ul style="list-style-type: none"> • University to develop models that companies can use to support students – publish in USQ brochure 	3	9	Tools Division of labour
D10	<ul style="list-style-type: none"> • Negotiate with employers particularly larger ones, to provide a brochure, pamphlet to encourage workplaces to be study friendly 	2	10	Tools Division of labour

As an aid to the development of the conceptual framework, dominant themes emerging from the nominal group suggestions include:

- Learning tasks and assessment should make better utilisation of the workplace.
- The benefits of situated learning in the workplace can only be achieved if sufficient flexibility is allowed for distance education students to work within and around the constraints associated with their part-time or full-time employment.
- Flexibility is required in the nature and timing of learning and assessment activities.
- The University should open up dialogue with employers and industry to involve them more in the teaching and learning activities.

- The University should encourage employers and industry to provide a more-supportive environment for students.

4.6.7 Focus group for Strand E: Learning resources

Previous analysis of students' comments in Table 4.19 has identified the following sources of disturbances that arise in the course of interaction by the students with the learning resources:

- *Excessive time required for reading study materials, text books, and other materials*
- *Inadequate study and support materials online*
- *Inadequate study and support materials in print form*

Nominal group participants were asked to respond to the request below giving consideration to the students' comments:

Please suggest a number of ways to make the LEARNING RESOURCES more relevant and valuable to the students' distance education learning experience.

The ten highest-ranked suggestions are listed below in Table 4.26, together with the respective score, overall ranking and the AT nodes to which the suggestion most closely aligns.

Table 4.26: Suggestions to address disturbances related to the learning resources

No.	Highest ranking suggestions (ranked 1 to 10)	Score	Rank	AT node
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E1	<ul style="list-style-type: none"> Links learning resources to activity – reason to use the resources – stimulation 	12	1	Tools
E2	<ul style="list-style-type: none"> Provide case studies, creating resources using student body - interview or video production – allows PG students to deconstruct and analyse real life activities. More real life real work situations, discussions, case studies. 	11	2	Tools Division of labour Community
E3	<ul style="list-style-type: none"> Learning resources need to be varied 	10	3	Tools
E4	<ul style="list-style-type: none"> In choosing from a range of resources to keep up with student contexts – understanding student circumstances. Greater flexibility in resource delivery – student can choose range of resources on an individual basis depending on student circumstances. 	10	3	Tools Division of labour
E5	<ul style="list-style-type: none"> Create more program focus to courses for learning materials – build in common resources 	9	5	Tools Division of labour
E6	<ul style="list-style-type: none"> Quality – much more rigorous of the review of resources - up-to-date references 	8	6	Rules Tools
E7	<ul style="list-style-type: none"> Interrogate the assumptions that we make about what students can do – entry requirements – adapt the materials accordingly – grading materials 	8	6	Tools
E8	<ul style="list-style-type: none"> More emphasis to get students to identify their own resources – less ‘spoonfeeding’ of learning resources – greater expectation of PG students to identify and evaluate and effectively utilize their own learning resources 	7	8	Tools Division of labour
E9	<ul style="list-style-type: none"> Ensure course teams are genuinely constructed and used – e.g. ensure moderator has an active role in sharing of ideas, quality of materials, peer review 	6	9	Division of labour Community
E10	<ul style="list-style-type: none"> Emphasis on quality of resources rather than quantity 	5	10	Tools
E11	<ul style="list-style-type: none"> Provide alternative representations of course key concepts of using current multimedia technologies (learning objects) 	5	10	Tools
E12	<ul style="list-style-type: none"> Recognize that pedagogy is at least important as the discipline based content 	5	10	Tools

As an aid to the development of the conceptual framework, dominant themes emerging from the nominal group suggestions include:

- Provide better links between learning activities, the distance education learning resources and the needs of individual students.
- Provide greater encouragement to utilise the learning resources to achieve improved learning outcomes.
- Provide students with greater flexibility in selection of relevant learning resources or development of their own resources.

- Learning resources should have a broader focus at program level as well as at individual course level.
- Learning resources for courses should reflect the progression of students along individual pathways through their program.
- Learning resources should be coordinated at program level through broader communities of practice among academic staff, with adequate quality controls over the pedagogical and curriculum aspects of the materials.

4.6.8 Focus group for Strand F: Assessment

Previous analysis of students' comments in Table 4.19 has identified the following sources of disturbances that arise in the course of interaction by students with assessment tasks and activities:

- *Assignments as a means of assessment relative to other means*
- *Lack of group work and team work as an effective way of learning*
- *Too much focus on the theory and not enough on practice*

Nominal group participants were asked to respond to the request below giving consideration to the students' comments:

Please suggest a number of ways to make ASSESSMENT more relevant and valuable to the students' distance education learning experience.

The ten highest-ranked suggestions are listed below in Table 4.27, together with the respective score, overall ranking and the AT nodes to which the suggestion most closely aligns.

Table 4.27: Suggestions to address disturbances related to assessment

No.	Highest ranking suggestions (ranked 1 to 10)	Score	Rank	AT node
F1	<ul style="list-style-type: none"> • Incorporate workplace projects into student assessment. • Assessment related to and drawing on work context. • Assessment should be open ended and based on real world cases 	18	1	Tools Division of labour
F2	<ul style="list-style-type: none"> • Improve the quality and timing of feedback. Timely and developmental feedback 	15	2	Tools Division of labour
F3	<ul style="list-style-type: none"> • Realistic assessment load appropriate for measuring student achievement of learning objectives 	8	3	Division of labour Tools
F4	<ul style="list-style-type: none"> • Assessment to encourage student learning at an appropriate level – critical thinking 	8	3	Tools Object Outcomes
F5	<ul style="list-style-type: none"> • Assessment aligned with program/course objectives and learning activities 	5	5	Tools Object
F6	<ul style="list-style-type: none"> • Expectations clear and consistent across program offer 	5	5	Tools Object
F7	<ul style="list-style-type: none"> • Investigate alternative assessment techniques possibility of using negotiated assessment instruments in different students within the same course 	4	7	Tools Rules Division of labour
F8	<ul style="list-style-type: none"> • Encourage a more developmental approach to assessment by course examiners – formative 	4	7	Tools Division of labour
F9	<ul style="list-style-type: none"> • Provide expertise/mentorship to course leaders in the development of appropriate assessment items - 	2	9	Tools Division of labour
F10	<ul style="list-style-type: none"> • Consistent assignment extension policies including flexibility 	2	9	Tools Rules
F11	<ul style="list-style-type: none"> • Lighter assessment loads in beginning courses and cumulative assessment in a capstone 	2	9	

As an aid to the development of the conceptual framework, dominant themes emerging from the nominal group suggestions include:

- Distance education assessment tasks and activities should be grounded in real-world cases and be closely related to the workplace.
- Assessment requirements should allow flexibility for distance education students in their choice of assessment tasks, and in their timing to allow students to cater for other conflicting commitments.
- Feedback to students should be timely and developmental in nature to align with learning objectives at course and program level.

- Assessment objectives and tasks should be coordinated and consistent across programs, with support provided for academic staff in the design of appropriate assessment.

4.6.9 Findings from analysis of focus group data related to AT nodes

Analysis of the 64 nominal group suggestions using AT as a framework indicates that disturbances relate most frequently to the nodes of 'Division of Labour' and 'Community'. Fewer suggestions relate to the nodes of 'Tools' and 'Rules', and the least number of disturbances are located at the nodes of 'Subject' (the student), the 'Object' (the studies) and 'Outcomes'.

The findings from analysis of the focus group data have been used to generate key principles for development of a conceptual framework for postgraduate distance education in project management as described below.

4.7 Generation of guiding principles

4.7.1 Guiding principles

Although the nominal group suggestions indicate ways in which to address the contradictions and disturbances within the University setting, they are not sufficiently structured to act as principles.

The over-arching aim of this study is to identify '*guiding principles for the development of a conceptual framework for postgraduate distance education in project management*'. A principle is a general truth on which other truths depend and may be described as 'a fundamental reached by induction' (Peikoff 1991, cited in Locke, 2002, p. 198). The level of abstraction is critical, and 'the narrower the principles, the more are necessary to guide managerial actions. If the number of principles gets too large, people cannot hold them all in mind' (Locke, 2002, p. 198). The issue of abstraction must be considered in formulating useful principles as

‘principles that are too broad can be difficult to use without formulating many, more specific sub-principles’ (Locke, 2002, p. 198), and Locke therefore argues for mid-range (or ‘key’) principles. For the purpose of this study, principles have been defined as those that are ‘*accepted by others and adopted as a strong belief in order to take action in a particular way*’ (adapted from Oxford University Press, 2008, p. n.p.).

4.7.2 A framework for analysing the focus group suggestions

As the organisational activity of providing distance education involves a wide range of participants, inclusion of all ‘*others*’ (in the definition of principles above) necessitates a comprehensive framework within which to understand the structure of the organisation and the roles of the multiple stakeholders (Goodyear, 1999). The pedagogical framework by Goodyear (1999) (see Figure 2.2) is most relevant as it has three main components which reflect the case study setting – the organisational context, the pedagogical framework and the educational setting.

4.7.3 The DELPHE framework of guiding principles

Consistent with the aims of this study, the major outcome is a framework of **distance education and learning principles for higher education** which is referred to in this dissertation as the **DELPHE** framework. To generate the comprehensive framework of guiding principles, the following steps have been taken, and these are described in more detail below:

- Table 4.28 illustrates how a matrix of eighteen cells has been created using the six nominal group topics and the three layers of Goodyear’s framework, and how the 64 nominal group suggestions have been mapped to the relevant cells;
- Table 4.29 illustrates how the major themes covered by the nominal group suggestions in each cell have been collapsed into shorter coherent narrative statements which have then been collapsed further into a single sub-principle for each cell. Sub-principles in each column have been aggregated into a single key

principle to address the nominal group topic covered by that column (to derive Key Principles A to F), and sub-principles across each row have been aggregated into a single key principle to address that layer of Goodyear's framework (to derive Key Principles 1 to 3);

- In Table 4.30, the sub-principles and key principles have been collated into a single table to provide a clear overview of the principles and to demonstrate their coherence as an holistic framework.

Table 4.28: Mapping of nominal group suggestions to Goodyear’s pedagogical framework

Notes:

- A matrix has been created by relating each of the six nominal group strands to the three major dimensions of Goodyear’s pedagogical framework.
- Goodyear’s framework has been summarised to three levels to avoid excessive detail. This has created a table with eighteen cells.
- The suggestions derived from the nominal groups have been allocated to the most appropriate cell in the table as discussed above.
- The suggestion in each strand that was ranked 1st is shown in red font
- The suggestions in each strand that were ranked 2nd to 5th are shown in blue font
- The suggestions that have been relocated to another strand where they are most logically located are highlighted in green.
- The key themes addressed in each suggestion are highlighted in yellow
-

A. Learning institution		B. Academic facilitator		C. Student peer group		D. Workplace		E. Learning resources		F. Assessment	
STRAND	Strand A	Strand B	Strand C	Strand D	Strand E	Strand F					
I. Organisational context	<ul style="list-style-type: none">• A1. Pedagogically and procedurally sound policies and implement them consistently• A2. Implement strategies to improve learning and teaching skills of staff through recruitment and development and promotion• A8. We need to maintain an institutional relationship with students from their first enquiry through to their membership of the alumni• A9. More strategic student support, better planned, better resourced, and better implemented• A10. Create a program based website for news, current events, job opportunities, common resources• B3. Realign the budget to emphasise teaching much more• C4. Create a social space to obtain academic and non academic services - course communities and program communities	<ul style="list-style-type: none">• B1. Staff development in facilitation skills, elearning and manage discussion groups. Professional development for staff, workshops with role plays, web resources (professional development) online discussion. Facilitators to study as an external student in unfamiliar area. All online facilitators should do an online course with an excellent facilitator. Provision of a facilitating mentor for courses leaders. Academic staff require skills and training to support dealing with international student cohorts. Mandate training• B2. Provide rewards, encourage good practice through rewards. Review reward structure – what supports good teaching? Financial recognition• B4. Staff priorities need to be aligned with University priorities – for example, the primary role of distance education and the ongoing nature of distance education• B5. Service agreement – USQ level or faculty level or program level – defining level of service of facilitators. Mandating some training – quality of service – depends on the role of the academic. Let students know how often you visit the discussion forum so they're not left wondering• B6. Find mechanisms to engage		<ul style="list-style-type: none">• D2. Develop more flexible academic calendar – flexible start and finish and assessment• D3. Review of the lack of 24 x 7 support and its implications for students' ability to cope with their studies and work• D4. Make clear the level of commitment to study and warn students who are at risk – work life balance• D8. Longer semesters – students are time poor – decrease the size of courses to allow for external work commitments	<ul style="list-style-type: none">• E10. Emphasis on quality of resources rather than quantity	<ul style="list-style-type: none">• F10. Consistent assignment extension policies including flexibility• D7. Standard assignment extension policy in program – consistent assignment policy					

A. Learning institution		B. Academic facilitator	C. Student peer group	D. Workplace	E. Learning resources	F. Assessment
STRAND	Strand A	Strand B	Strand C	Strand D	Strand E	Strand F
		<p>the unconverted course leaders and review USQ and faculty policies</p> <ul style="list-style-type: none"> • B7. Industry experience – recognise we need to have people who have industry experience. recognition of staff workplace skills • B9. Improve our feedback system from students 				
2. Pedagogical framework						
<ul style="list-style-type: none"> • Philosophy • High level pedagogy • Pedagogical strategy • Pedagogical tactics 	<ul style="list-style-type: none"> • A3. Emphasise human aspects of the institution • A4. Bring learning and teaching to the centre e.g., academic workloads that reflect reality. We need academic staff to teach more in time, more in terms of developing skills, creating it as a prestigious occupation • A6. Institutional process to look at quality of courses and their content – outdated material, quantity of material including peer review • A7. Create a community of practice type mentality and provide environment for collaborative communication at a program level 	<ul style="list-style-type: none"> • A5. We need to take a developmental approach to learning as opposed to a deficit approach • B8. Community of practice, meeting of the examiners of a program so they share ideas – current workloads do not allow to meet at the program level – providing consistent approach and level of service. Learning communities for facilitators to share ideas and support each other • B10. LTSU and others to advise on design and implementation of online courses – instructional design • E9. Ensure course teams are genuinely constructed and used – e.g. ensure moderator has an active role in sharing of ideas, quality of materials, peer review • E12. Recognize that pedagogy is at least important as the discipline based content • F9. Provide expertise / mentorship to course leaders in the development of appropriate assessment items 	<ul style="list-style-type: none"> • C1. Learning circles - contact details of other students available to other students - one or one contact or groups. Learning circles - not enough encouragement for students to use them - lack of understanding, who to contact - how to create • C2. Explain to the students the value of social learning • C3. Create an interactive environment - second life - one on one or group format. Second life - online simulation series of simulation predefined by the course leader - synchronous activity - able to see each other creating a simulation in a virtual environment • C6. Distributed group - course or program - find a way to teach students skills in social interaction in an online environment • C10. think about the role of the lurker • C11. Encourage regional face-to-face study groups promoted by the lecturer • D8. Social web conferencing tools - Eluminate, Camtasia 	<ul style="list-style-type: none"> • D1. Make assessment more relevant to student workplace. Design learning activities and assessment that value add to the workplace – workplace focused assessment • D5. Examiners to value student work experience – recognition of workplace learning and use in assignments 	<ul style="list-style-type: none"> • E1. Links learning resources to activity – reason to use the resources – stimulation • E3. Learning resources need to be varied • E4. In choosing from a range of resources to keep up with student contexts – understanding student circumstances. Greater flexibility in resource delivery – student can choose range of resources on an individual basis depending on student circumstances • E5. Create more program focus to courses for learning materials – build in common resources • E6. Interrogate the assumptions that we make about what students can do – entry requirements – adapt the materials accordingly – grading materials • E7. Quality – much more rigorous of the review of resources - up-to-date references • E11. Provide alternative representations of course key concepts of using current multimedia technologies (learning objects) 	<ul style="list-style-type: none"> • F1. Incorporate workplace projects into student assessment. Assessment related to and drawing on work context. Assessment should be open ended and based on real world cases • F3. Realistic assessment load appropriate for measuring student achievement of learning objectives • F4. Assessment to encourage student learning at an appropriate level – critical thinking • F5. Expectations clear and consistent across program offer • F6. Assessment aligned with program/course objectives and learning activities • F7. Investigate alternative assessment techniques possibility of using negotiated assessment instruments in different students within the same course • F8. Encourage a more developmental approach to assessment by course examiners – formative • F11 Lighter assessment loads in beginning courses and cumulative assessment in a capstone
3. Educational setting						

A. Learning institution		B. Academic facilitator		C. Student peer group		D. Workplace		E. Learning resources		F. Assessment	
STRAND	Strand A	Strand B	Strand C	Strand D	Strand E	Strand F					
<ul style="list-style-type: none">•Environment•Tasks•Student activity•Learning outcomes		<ul style="list-style-type: none">•C9. time-poor students - tool use optional - poor Internet connections etc	<ul style="list-style-type: none">•C5. Allow guest speakers on the discussion board - industry involvement•C7. Lecturer to participate in discussion boards - academic participation. Course leader to act as role model to students for use of discussion boards or any other tools	<ul style="list-style-type: none">•D6. Faculty writes to employer of each student to thank them for their support•D9. University to develop models that companies can use to support students – publish in USQ brochure•D10. Negotiate with employers particular larger ones to provide a brochure, pamphlet to encourage workplaces to be study friendly	<ul style="list-style-type: none">•E2. Provide case studies, creating resources using student body - interview or video production – allows PG students to deconstruct and analyse real life activities. More real life real work situations, discussions, case studies•E8. More emphasis to get students to identify their own resources – less ‘spoon-feeding’ of learning resources – greater expectation of PG students to identify and evaluate and effectively utilize their own learning resources	<ul style="list-style-type: none">•F2. Improve the quality and timing of feedback. Timely and developmental feedback					

Table 4.29: DELPHE Principles derived from mapping of nominal group suggestions to Goodyear’s pedagogical framework

- Suggestions in each cell from Table 4.28 have been reduced to a smaller set of narratives to reflect the key themes in the suggestions.
- The key themes covered by the narratives have been **highlighted in yellow** as a focus for a sub-principle to address the potential disturbances represented by that cell
- A **sub-principle** has been provided at the bottom of each row to reflect the concepts in the statements in the cell above.
- A **key principle** for each strand (in each of the six columns) has been provided at the bottom of each column as an aggregate of sub-principles in that strand - **Key Principles A to F**.
- A **key principle** for each row (or layer) of Goodyear’s pedagogical framework has been provided in the RH column as an aggregate of the sub-principles in that row – **Key Principles 1 to 3**.
-

	A. Learning institution	B. Academic facilitator	C. Student peer group	D. Workplace	E. Learning resources	F. Assessment	Key Principles 1 to 3 promote alignment within and across the organisational layers
STRAND	Strand A	Strand B	Strand C	Strand D	Strand E	Strand F	
1. Organisational context	<ul style="list-style-type: none"> • Develop lifelong relationships with students at a personal level • Provide academic and non-academic support facilities to meet students’ needs • Allocate financial and human resources to improve academic staffing profiles and development of teaching skills • Define and implement rules, regulations and policies that are pedagogically and procedurally consistent with organisational objectives 	<ul style="list-style-type: none"> • Define expectations for teaching roles and practice • Engage academic staff in distance education teaching mode • Recruit, develop, recognise, promote and reward academic staff relative to learning outcomes • Recognise and reward staff for practical industry knowledge and experience • Incorporate student feedback into teaching practices 	(no suggestions from focus group outcomes)	<ul style="list-style-type: none"> • Provide a flexible learning environment to accommodate student workplace commitments • Provide student support to address conflicts between study and workplace commitments • Establish a relationship with employer organisations to foster work/study/life balance 	<ul style="list-style-type: none"> • Provide financial resources to develop learning resources with a focus on quality rather than quantity 	<ul style="list-style-type: none"> • Establish consistent policies on assessment requirements across courses and programs • Provide flexibility to accommodate study/work/life conflicts 	Key Principle 1 Organisational values focus on building student-centred learning communities and relationships that reflect concern and respect for all members of the community.
Sub-principles	Sub-principle A1 University policies and regulations are based on values that balance the needs and interests of all members of the learning community. They are student-focused, supportive, and are implemented fairly and consistently across the community.	Sub-principle B1 The organisational structure of the University provides support for learning communities that focus on the needs and outcomes of all key stakeholders.	(no principle derived)	Sub-principle D1 The University provides support for external stakeholders to be members of the learning community, and promotes a learning environment that includes external workplace and industry settings.	Sub-principle E1 University policies and regulations provide support for development of innovative learning resources that meet the diverse needs of the learning community.	Sub-principle F1 University policies and regulations provide support for achievement of learning outcomes at program level through flexible, uniform and consistent assessment practices.	
2. Pedagogical framework							
Philosophy • High level pedagogy • Pedagogical strategy • Pedagogical tactics	<ul style="list-style-type: none"> • Focus on humanistic rather than mechanistic dimensions of the institution • Define the role and status of distance education in the hierarchy of organisational priorities • Align DE teaching roles and activities with organisational priorities • Define quality standards for learning resources 	<ul style="list-style-type: none"> • Adopt a developmental approach to learning • Achieve a balance between pedagogy and discipline-based content • Foster academic communities of practice to provide mentorship and achieve consistency across course and program levels 	<ul style="list-style-type: none"> • Create interactive, social and collaborative learning environments • Foster student communities of practice to engage all students including those on the periphery • Utilise technology to foster virtual learning environments and online social presence 	<ul style="list-style-type: none"> • Use the workplace as an environment for learning and assessment • Recognise and build on students’ existing workplace-related knowledge and skills 	<ul style="list-style-type: none"> • Provide access to flexible, current, relevant and varied learning resources to suit students’ context • Align learning resources with learning tasks and activities • Learning resources should reflect student progression and learning outcomes at course and program level 	<ul style="list-style-type: none"> • Align assessment with course and program objectives to foster higher-order learning • Set open-ended assessment based on real-life cases from the workplace • Set realistic assessment workloads • Set consistent, relevant and flexible assessment across courses and 	Key Principle 2 Teaching and learning philosophies and strategies are learner-centred and encourage collaborative construction of knowledge

	A. Learning institution	B. Academic facilitator	C. Student peer group	D. Workplace	E. Learning resources	F. Assessment	Key Principles 1 to 3 promote alignment within and across the organisational layers
STRAND	Strand A	Strand B	Strand C	Strand D	Strand E	Strand F	
	<ul style="list-style-type: none"> Foster communities of practice across the organisation at all levels 					programs	and skills within communities of practice.
Sub-principles	Sub-principle A2 The pedagogical framework for teaching and learning reflects organisational values and priorities, and encourages lifelong learning. It supports learner-centred teaching practices and fosters communities of practice across the organisation.	Sub-principle B2 Consistent and uniform pedagogical values are adopted across the University community and underpin collaborative and constructivist teaching practices. Curriculum, content and assessment are flexible, negotiable and learner-centred, and provide scaffolded and staged learning across the program.	Sub-principle C2 Teaching and learning strategies and practices encourage students to interact and engage with other learners in a social learning environment.	Sub-principle D2 Teaching and learning strategies and practices encourage learners to build upon existing professional knowledge and skills, and situate new learning in authentic environments.	Sub-principle E2 Teaching and learning strategies and practices encourage students to collaboratively develop multi-modal learning resources that meet individual learners' needs and support the learning objectives of the program.	Sub-principle F2 Teaching and learning strategies and practices allow students to negotiate activities for self-assessment, peer assessment and independent assessment to confirm progressive achievement of program objectives.	
3. Educational setting							
Environment Tasks Student activity Learning outcomes	(no suggestions from nominal group outcomes)	Avoid ineffective use of students' time Make allowance for technological constraints in students' personal learning environment	Foster interaction with other students and industry practitioners Actively participate in social learning environments for students such as discussion boards	Engage industry and workplace in learning tasks and activities Provide acknowledgement and support for employers to create a study-friendly workplace	Encourage students to define and develop their own learning resource needs Relate learning resources to the workplace	Provide timely and relevant developmental feedback to students	Key Principle 3 Conceptual beliefs about teaching and learning are reflected in learning tasks and activities that are located in meaningful and authentic settings.
Sub-principles	(no principle derived)	Sub-principle B3 Learning tasks are flexible and developmental in nature, and encourage activities which are meaningful to the student and focus on the learning objectives across the program.	Sub-principle C3 Learning tasks incorporate group activities that take place in a collaborative learning environment to simulate real-life settings.	Sub-principle D3 Learning tasks include activities that seek solutions to real-life problems situated in realistic workplace settings.	Sub-principle E3 Learning tasks include activities for students to develop individual learning resources that add value to the learning setting.	Sub-principle F3 Learning tasks include activities that provide formative evaluation of student progress, and summative evaluation of achievement of learning objectives at program level.	
Key Principles A to F promote student engagement and alignment across all aspects of the student learning experience	Key Principle A The administration and management of teaching and learning focus on building learning communities that provide guidance and support for students within an open and inclusive learning environment.	Key Principle B Interdependent relationships between teachers and learners encourage lifelong learning within a flexible and learner-centred environment.	Key Principle C Communities of learners provide a rich social environment for deep learning through interaction and engagement aimed at development of higher-order intellectual skills and abilities.	Key Principle D Professional expertise is progressively developed through collaborative learning that seeks solutions to real-life problems situated in authentic contexts.	Key Principle E Communities of learners encourage students to collaboratively construct and develop learning resources that have personal meaning and value, and which support individual learning strategies.	Key Principle F Student learning activities and outcomes are enhanced through negotiable assessment tasks that are developmental and reflective in nature.	

Note: The twenty-five DELPHE principles are collated in a table in Table 4.30.

Table 4.30: Collation of DELPHE principles from Table 4.29

Column headings reflect the focus of the principles in that column.

A. Community building		B. Learner-centredness	C. Collaborative learning	D. Situated learning	E. Learning support	F. Learning outcomes	Key Principles 1 to 3 promote alignment within and across the organisational layers
STRANDS	Strand A	Strand B	Strand C	Strand D	Strand E	Strand F	
1. The Organisational context	Sub-principle A1 University policies and regulations are based on values that balance the needs and interests of all members of the learning community. They are student-focused, supportive, and are implemented fairly and consistently across the community.	Sub-principle B1 The organisational structure of the University provides support for learning communities that focus on the needs and outcomes of all key stakeholders.	(no principle derived)	Sub-principle D1 The University provides support for external stakeholders to be members of the learning community, and promotes a learning environment that includes external workplace and industry settings.	Sub-principle E1 University policies and regulations provide support for development of innovative learning resources that meet the diverse needs of the learning community.	Sub-principle F1 University policies and regulations provide support for achievement of learning outcomes at program level through flexible, uniform and consistent assessment practices.	Key Principle 1 Organisational values focus on building student-centred learning communities and relationships that reflect concern and respect for all members of the community.
2. The Pedagogical Framework •Philosophy •High level pedagogy •Pedagogical strategy •Pedagogical tactics	Sub-principle A2 The pedagogical framework for teaching and learning reflects organisational values and priorities, and encourages lifelong learning. It supports learner-centred teaching practices and fosters communities of practice across the organisation.	Sub-principle B2 Consistent and uniform pedagogical values are adopted across the University community and underpin collaborative and constructivist teaching practices. Curriculum, content and assessment are flexible, negotiable and learner-centred, and provide scaffolded and staged learning across the program.	Sub-principle C2 Teaching and learning strategies and practices encourage students to interact and engage with other learners in a social learning environment.	Sub-principle D2 Teaching and learning strategies and practices encourage learners to build upon existing professional knowledge and skills, and situate new learning in authentic environments.	Sub-principle E2 Teaching and learning strategies and practices encourage students to collaboratively develop multi-modal learning resources that meet individual learners' needs and support the learning objectives of the program.	Sub-principle F2 Teaching and learning strategies and practices allow students to negotiate activities for self-assessment, peer assessment and independent assessment to confirm progressive achievement of program objectives.	Key Principle 2 Teaching and learning philosophies and strategies are learner-centred and encourage collaborative construction of knowledge and skills within communities of practice.
3. The Educational setting •Environment •Tasks •Student activity •Learning outcomes	(no principle derived)	Sub-principle B3 Learning tasks are flexible and developmental in nature, and encourage activities which are meaningful to the student and focus on the learning objectives across the program.	Sub-principle C3 Learning tasks incorporate group activities that take place in a collaborative learning environment to simulate real-life settings.	Sub-principle D3 Learning tasks include activities that seek solutions to real-life problems situated in realistic workplace settings.	Sub-principle E3 Learning tasks include activities for students to develop individual learning resources that add value to the learning setting.	Sub-principle F3 Learning tasks include activities that provide formative evaluation of student progress, and summative evaluation of achievement of learning objectives at program level.	Key Principle 3 Conceptual beliefs about teaching and learning are reflected in learning tasks and activities that are located in meaningful and authentic settings.
Key Principles A to F promote student engagement and alignment across all aspects of the student learning experience	Key Principle A The administration and management of teaching and learning focus on building learning communities that provide guidance and support for students within an open and inclusive learning environment.	Key Principle B Interdependent relationships between teachers and learners encourage lifelong learning within a flexible and learner-centred environment.	Key Principle C Communities of learners provide a rich social environment for deep learning through interaction and engagement aimed at development of higher-order intellectual skills and abilities.	Key Principle D Professional expertise is progressively developed through collaborative learning that seeks solutions to real-life problems situated in authentic contexts.	Key Principle E Communities of learners encourage students to collaboratively construct and develop learning resources that have personal meaning and value, and which support individual learning strategies.	Key Principle F Student learning activities and outcomes are enhanced through negotiable assessment tasks that are developmental and reflective in nature.	

4.7.4 Mapping of nominal group suggestions

Table 4.28 maps the 64 suggestions from the nominal group sessions onto a matrix comprising the three major components of Goodyear's pedagogical framework (as rows) and the six strands used to collect data in the nominal group sessions (as columns). Only the three highest levels of Goodyear's framework (1999) have been used to create the matrix to avoid unnecessary and confusing detail. To ensure that the mapping process accurately reflects the data collected in the nominal groups, suggestions are mapped to the column reflecting the nominal group topic (column) under which they were generated, and mapped to the row best reflecting their relevance to the organisational context, pedagogical framework issues or the educational setting.

Where suggestions relate more to a topic other than the one in which they were generated, they have been mapped to the most appropriate cell in the matrix (see Table 4.28). For example, suggestion D.7 addresses a disturbance related specifically to assessment (rather than the workplace or situated learning which was explored in topic D) and has been placed in column F (Assessment). Mapping suggestions to the framework reveals the following pattern in the distribution of suggestions:

- *Organisational context* – 21 of the 64 suggestions map to the Organisational Context with an emphasis on the role of the academic facilitator.
- *Pedagogical framework* – the largest number of suggestions (34 of 64) map to pedagogical issues in the Pedagogical Framework with almost equal distribution across the six topics, indicating that most of the disturbances identified relate to academic issues.
- *Educational setting* - the remaining nine map to the Educational Setting.

4.7.5 Generation of principles

In order to identify the key themes within the framework, individual suggestions have been analysed to identify the specific disturbances that have been addressed by

each suggestion and the key theme contained in each suggestion is highlighted in yellow. The suggestions in each cell in Table 4.28 are summarised in a series of shorter narratives in the equivalent cells in Table 4.29. Each nominal group suggestion has been analysed individually to confirm that the disturbances identified in the suggestions in each cell are still addressed in the shorter statements. This is to ensure that the meaning of the suggestions has not been lost nor distorted in the process of reducing them to shorter narratives. Principles have been derived as follows:

- *Generation of sub-principles* - The narratives in each cell of the matrix have been collapsed into a single sub-principle, creating 16 sub-principles in total (as two of the 18 cells contained no suggestions from the nominal group findings).
- *Generation of key principles A to F* - The three sub-principles in each column have been aggregated into a single Key Principle, creating six Key Principles (A to F).
- *Generation of key principles 1 to 3* - The six sub-principles across each row of the framework have been aggregated into a single Key Principle, creating three Key Principles (1 to 3).

The DELPHE sub-principles and key principles displayed in Table 4.29 are consistent with Locke's (2002) recommendations in that:

- They are focused on the specific context of this study,
- They identify those issues that require urgent attention, and
- They are structured in a fundamental way to indicate the logical sequence of action to be taken to optimise the outcomes.

4.7.6 Collation of the DELPHE principles

The key principles and sub-principles have been collated into Table 4.30. These guiding principles will assist in achieving alignment vertically across organisational and academic layers of the University, and horizontally across all dimensions of the

student's learning experience explored in the nominal groups, consistent with Biggs' views on constructive alignment (Biggs, 2005).

The six Key Principles A to F and their related sub-principles address disturbances in the student learning experience with a focus on six areas – the need for:

- (a) community building to create a student-focused learning community,
- (b) development of a learner-centred student experience,
- (c) incorporation of collaborative learning tasks and activities,
- (d) facilitation of learning that is situated in authentic learning environments,
- (e) adequate and relevant resources to support learning activities, and
- (f) measurement and confirmation of students' learning outcomes.

These foci are indicated in the headings to columns in Table 4.30.

- (A) *Community building* – an essential component for the achievement of a learning community with a student-centred philosophy governing rules and regulations consistent with the image promoted by the University (Lovegrove, 2007d)
- (B) *Learner-centredness* – reflected in authentic teaching and learning tasks and activities that incorporate interaction and engagement between academic facilitators and students as a critical dimension of the student learning experience (Bates, 1991; Kearsley & Schneiderman, 1999; Moore, 1989)
- (C) *Collaborative learning* – constructivist models of teaching and learning stress the need for a social and dialogical learning environment that incorporates collaboration and interaction between students (Garrison, 1997; Jonassen, 2003b; Steeples & Jones, 2002)
- (D) *Situated learning* – the importance of situating the learning experience in the world of the student including the industry-based workplace (Herrington & Oliver, 1999; Lave & Wenger, 1991)

- (E) *Learning support* – providing the necessary resources and support for the student to engage with the learning process and the curriculum (Barrie et al., 1996; McLoughlin, 2002; Tait, 2000)
- (F) *Learning outcomes* – the need for confirmation of learning outcomes (Centre for the Study of Higher Education, 2002c; Kretoivics & McCambridge, 2002; Oliver, 2000).

4.7.7 Application of the DELPHE principles

The DELPHE framework provides guidelines for action to achieve the necessary alignment through nine key principles (Key Principles A to F and Key Principles 1 to 3). These nine principles are supported and illuminated by sixteen sub-principles. As the twenty-five principles form a matrix, the principles can be examined and interpreted individually or in clusters. For example:

- *Sub-principles A1 to A3* have been aggregated *vertically* to arrive at *Key Principle A* which provides guidelines to facilitate building a learning community with a true student focus across all aspects of the University’;
- *Sub-principles A1 to F1* have been aggregated *horizontally* to arrive at *Key Principle 1* which provides guidelines to achieve alignment within and across the ‘organisational context’ of the student learning experience; and
- *Sub-principle A1* in isolation provides more detailed guidelines for addressing issues related to community building within the learning institution;

4.7.8 Summary of the key principles in the DELPHE framework

The nine key principles which constitute the DELPHE framework comprise:

- **Key Principle A - Community building**

The administration and management of teaching and learning focus on building learning communities that provide guidance and support for students within an open and inclusive learning environment.

- **Key Principle B – Learner-centredness**

Interdependent relationships between teachers and learners encourage lifelong learning within a flexible and learner-centred environment.

- **Key Principle C – Collaborative learning**

Communities of learners provide a rich social environment for deep learning through interaction and engagement aimed at development of higher-order intellectual skills and abilities.

- **Key Principle D – Situated learning**

Professional expertise is progressively developed through collaborative learning that seeks solutions to real-life problems situated in authentic contexts.

- **Key Principle E – Learning support**

Communities of learners encourage students to collaboratively construct and develop learning resources that have personal meaning and value, and which support individual learning strategies.

- **Key Principle F – Learning outcomes**

Student learning activities and outcomes are enhanced through negotiable assessment tasks that are developmental and reflective in nature.

- **Key Principle 1 – The organisational context**

Organisational values focus on building student-centred learning communities and relationships that reflect concern and respect for all members of the community.

- **Key Principle 2 – The pedagogical framework**

Teaching and learning philosophies and strategies are learner-centred and encourage collaborative construction of knowledge and skills within communities of practice.

- **Key Principle 3 – The educational setting**

Conceptual beliefs about teaching and learning are reflected in learning tasks and activities that are located in meaningful and authentic settings.

4.7.9 Holistic nature of the DELPHE framework

The over-arching aim of this study is to identify '*guiding principles for the development of a conceptual framework for postgraduate distance education in project management*'. In the development of guiding principles, it is important to consider three aspects - firstly, the level of abstraction must be appropriate to their objectives; secondly, there must be cohesion across and between the principles; and thirdly, there must be a sense of completeness (Locke, 2002).

Definition of the appropriate level of abstraction has been discussed previously in this section. The DELPHE framework is consistent with recommendations in this regard, as the guiding principles are defined and operationalised at three levels:

- Individually, Key Principles A to F and Key Principles 1 to 3 provide guidance at a level of abstraction that is appropriate to address issues that arise across the most significant dimensions of the distance education students' teaching and learning experience as well as across the respective levels of the environment within which learning takes place;
- The sixteen sub-principles provide guidance at a greater level of detail on how to address more specific instances of disturbance that arise at the respective layers of the learning environment relative to each of the six dimensions of the students' learning experience; and
- Each of the sixteen sub-principles is illustrated by operational statements that have been derived directly from the nominal group suggestions.

The structure of the DELPHE framework provides the necessary sense of cohesion as illustrated in Figure 4.1. Rather than providing a series of fragmented and disjointed principles, the framework examines the major dimensions of the distance education students' learning experience across the three layers of the pedagogical framework defined by Goodyear (1999).

Summarised levels of Goodyear's
Pedagogical framework

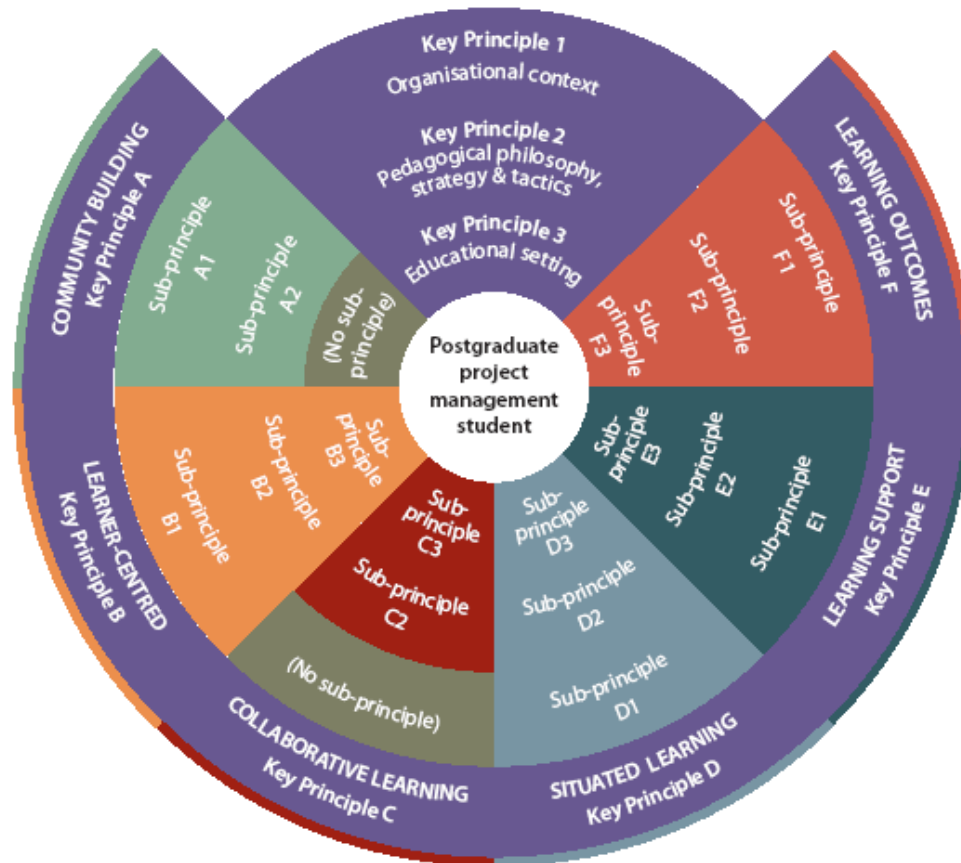


Figure 4.1: DELPHE Framework of guiding principles

Collectively, the key principles and sub-principles provide an holistic approach to addressing the disturbances across all dimensions of the distance education students' learning experience and at all levels. They are best understood as an organised set of principles and are 'intended to deal holistically with learners in the context of real-world learning situations' (Abrami, 2001, p. 124), and no principle should be viewed in isolation. This collective view of the principles provides the completeness that is essential for a framework to be effective. It ensures that there are 'absolutely no inconsistencies between the curriculum we teach, the teaching methods we use, the learning environment we choose, and the assessment procedures we adopt' (Biggs 1999, cited in Mayes & de Freitas, 2004, p. 5), and ensures that there is alignment

across all dimensions of the distance education students' learning experience (Biggs, 2003; Steeples & Jones, 2002).

4.7.10 Alignment between Key Principles A to F

Although six dimensions of the learning experience are examined in the DELPHE framework through Key Principles A to F, they are not mutually exclusive and overlap in many ways. Although some of the dimensions examine broader issues such as the need for community building while others are more focused on interaction and engagement in the teaching and learning activities, they are all focused on the student as a member of the learning community and as a student who is negotiating one aspect of a lifelong learning journey. No one dimension can predominate, or be addressed independently, as each is linked closely with the others. The DELPHE framework provides a means of achieving integration across the six defined dimensions of the students' learning experience so that all aspects of the system 'are in accord in supporting appropriate student learning' and in 'constructive alignment' (Biggs, 1999, p. 11).

4.7.11 Alignment between Key Principles 1 to 3

In a similar way, the three layers of the pedagogical framework examined in Key Principles 1 to 3 must be considered holistically. Few positive outcomes will be achieved if efforts to address disturbances at one level of the framework ignore issues arising at other levels. Although much is made of how technology can improve many aspects of the distance learners' experiences with learning, little attention is paid to the reality of students' encounters across all levels of the learning institution (White, 2005, p. 175). Morgan has argued that research into the student experience is critical for the development of a framework for practice, and this study is consistent with his views that the framework should be 'context specific and grounded in learners' experiences' in order to open up the world of the learner (Morgan 1995, cited in White, 2005, p. 172).

Laurillard (2002) also indicates that it is necessary to understand the entire context of delivery including all of the organisational systems which impact on the students' learning experience. To date, much of the distance education research has been focused on the 'theory and practice at the operational level rather than the broader context of educational change' (Latchem & Hanna, 2002, p. 204). Achievement of organisational change will require consideration of procedural change, technological change and structural and cultural change and it is predominantly this latter change which is designed to revise 'the nature, orientation and focus of the enterprise' (Latchem & Hanna, 2002, p. 204) that is the objective of the principles within the DELPHE framework. If that level of change can be achieved within the organisation, other changes that are required to procedures and technology will flow down the hierarchy. To achieve administrative and pedagogical changes across all levels of the University will require high levels of leadership, but research indicates that most university leaders 'come from conventional university backgrounds and most staff are recruited for their research rather than their pedagogical skills' (Latchem & Hanna, 2002, p. 208). Therein lies the challenge for senior leadership members of the University – how to convert recognised skills in narrow educational fields to the broader challenges related to organisational and pedagogical change.

4.8 Summary

Chapter 4 has provided details of how data collected in each of the stages were analysed and the findings progressively used to guide data collection and analysis of subsequent stages. Through document analysis, interviews, survey and focus groups, key principles have been developed that reflect the multiple views of participants in the study. The application of those principles and the implications for the University of the nine key principles and the related sub-principles are examined in Chapter 5.

5 Interpretation, conclusions and recommendations

5.1 Introduction

The aims and objectives of this study were to explore a university case study setting where academic and administrative staff involved with the project management program have raised concerns over what they saw as anomalies or ‘violations of expectations’ (Postle, Richardson, & Sturman, 2003, p. 166). Students have expressed concerns and dissatisfaction with their learning experience through formal feedback and through informal communications and this study has set out to explore those anomalies and concerns.

Previous chapters have provided a justification of the research design and methodology, provided details on how data were collected and analysed, and examined findings from each stage of the research to assist in answering the research questions. This chapter examines the organisational context in which the principles are to be applied and discusses their implications for the development of a theoretical framework for postgraduate distance education in project management.

5.2 Application of the DELPHE principles in the University setting

Each of the principles and their implications for policy-setting by the University are discussed in detail below. Previous studies have found that disequilibrium arises in university settings because of underlying contradictions within the organisation which stem from a wide range of sources (Portfelt, 2002), and the structure of the DELPHE principles within the matrix provides the University with an opportunity to take action holistically so that it is not fragmented nor focused on individual and isolated issues. To re-establish organisational equilibrium within the University setting, it is important to achieve alignment vertically so that the philosophies, regulations and policies of the University Council and Senior Leadership Committee can flow down to the practices of individual academic and non-academic staff

members, encompassing what Biggs describes as ‘constructive alignment’ (Biggs, 2005, p. 6). This contributes to the creation of a culture within the organisation that is endorsed by all members of the community and minimises conflicts and inconsistencies. It is also important to achieve alignment horizontally across programs and faculties, as well as across academic and administrative functions of the University structure.

5.3 The organisational context

Although the postgraduate project management programs are offered by the Faculty of Business, the offering of academic programs requires contributions and services from academic, technical, administrative and support staff from across all sections of the University. In order to survive in a competitive higher education sector, USQ has developed from an Institute of Advanced Education serving the local community in predominantly face-to-face education, to an international provider of distance education at undergraduate and postgraduate level. As Postle and Ellerton (1999, p. 1) have suggested, ‘...in order to present itself as a viable alternative to traditional universities, and to provide opportunities for students from a wide range of backgrounds, the University has responded aggressively to the challenges of distance education and international education’ (Postle & Ellerton, 1999, p. 2). USQ is a regional university with strong community links, an internationally-recognised provider of flexible student-centred education and an international business with local and international responsibilities to a wide range of stakeholders (Lovegrove, 2004b), and the Vice-Chancellor has acknowledged that its success has come from core foundation values and the quality of its staff who have ‘achieved much with little’ (Lovegrove, 2004b, p. 4).

Like other regional universities operating in a competitive tertiary sector (Bradley et al., 2008), USQ has embraced an educational model of recruiting international students both onshore and offshore, leading to internationalisation of the student body, staff, curriculum, and the wider community of offshore agents and partners (Adams & Walters, 2001). This internationalisation of the University, through a

series of endeavours to present itself as a leading transnational educator (Lovegrove, 2004a) and presently as a provider of flexible learning (University of Southern Queensland, 2007g, 2008e), has contributed to the underlying contradictions that have been examined in this study.

Due to these changes in the educational paradigm at USQ, disturbances have arisen including within the postgraduate distance education program in project management. USQ has moved through the first, second and third generations of distance education models defined by Taylor (2001b) and is currently operating within the fourth-generation model. Taylor's suggestions that "as distance education moves towards later generations of delivery, the primary benefits for learners are flexibility of access and increased student control over their learning" (Taylor, 1996) do not appear to have been achieved as a result of the espoused USQ policies of flexibility and student-centredness (Lovegrove, 2004b, 2007d). The balance of Chapter 5 examines the implications flowing from application of the guiding principles for development of a conceptual framework for postgraduate distance education in project management.

5.4 Key Principle A

This section discusses the key principle that promotes community building and the sub-principles that provide guidelines for operationalisation of the key principle. Within the DELPHE framework, Key Principle A provides guidelines for development of a learning community across the organisational context with a culture that is student-focused:

The administration and management of teaching and learning focus on building learning communities that provide guidance and support for students within an open and inclusive learning environment.

The guiding sub-principles that support Key Principle A are discussed below, and comprise:

- **Sub-principle A1** provides guidelines for community building policies within the organisational context:

University policies and regulations are based on values that balance the needs and interests of all members of the learning community. They are student-focused, supportive, and are implemented fairly and consistently across the community.

- **Sub-principle A2** provides guidelines for community building practices within the pedagogical framework:

The pedagogical framework for teaching and learning reflects organisational values and priorities, and encourages lifelong learning. It supports learner-centred teaching practices and fosters communities of practice across the organisation.

5.4.1 Key principle A – Community building

Although the study is focused on a single program related to project management, community is a pivotal concept in the understanding of communities of learners and communities of practice, where a community is a multigenerational group of people, at work or play, whose identities are defined in large part by the roles they play and relationships they share in that group activity. The roles and standing of individuals within a community change with increased learning and individual learners tend to experience a gradual identity transformation (Riel & Polin, 2001). The community derives its cohesion from the joint construction of a culture of daily life built upon behavioral norms, routines, and rules, and from a sense of shared purpose.

Community activity also precipitates shared artifacts and ideas that support group activity and individual sense-making. A community is multigenerational in that it exists over time and individuals. If they are to survive, communities cannot remain static – as roles evolve, each member is then able to leave a legacy for future generations. In short, a community differs from a collection of people by the strength and depth of the culture it is able to establish (Riel & Polin, 2001)

Since the opening up of access to distance education universities during the 1990s, the profile of postgraduate students has broadened with an increased diversity in terms of class, maturity and ethnicity, and this is reflected in the project management programs. Students' sense of 'feeling comfortable' (Read, Archer, & Leathwood, 2003, p. 266) plays an important role in the selection of a university and contributes towards a feeling of acceptance into the community. As indicated by data collected for this study, postgraduate students in the project management program voice fears of social and academic inadequacy as many have never undertaken university studies previously or have been out of study for a considerable period, and the culture of the university can easily lead to feelings of isolation rather than a sense of belonging to a community of learners:

'When I commenced study it took time to grasp the concepts needed for external uni requirements. In particular assignment format and the higher level of written language skills' (student comment).

Even before USQ postgraduate students have commenced their first academic activities, they have begun the process of confronting and negotiating the predominantly unwritten 'rules of the game' of university life which reflect the organisational culture (Read et al., 2003, p. 261). In developing and sustaining learning communities, there is 'a need for a supporting infrastructure where participants are clear as to the processes in engaging in any activity' (Hung & Chen, 2001, p. 7). To overcome students' sense of disconnectedness, constructivist models of learning (Bonk & Cunningham, 1998; Herrington & Standen, 1999; Jonassen, 2003a; McLoughlin, Winnips, & Oliver, 2000) should be located within communities of practice (Wenger, 1998) as these are seen as an ideal learning environment for postgraduate studies in the professions. However, the existence of such communities of practice necessitates an environment that is conducive to the formation of a community of learners and this is a critical role of the University. Building a learning community at organisational level requires a commitment from all members of the University to create an environment that supports collegial bonds, respect and accountability among its members otherwise students will not feel that they are 'fully-fledged members' of the community (McGill University, 2006, p. 4). For USQ

to create a student-focused culture, it must develop procedures and policies that are not ‘hampered by excessive bureaucracy and red tape’ (McGill University, 2006, p. 4). Lessons learned from other universities clearly indicate a need for a culture that ‘rewards service to students, as well as other members of the University community’ and participation of those charged with delivering services in the formulation of solutions to students’ problems (McGill University, 2006, p. 4).

A supportive campus environment is important if students are to feel part of that learning community and to succeed in their studies. The literature on situated cognition and communities of practice suggests four factors that contribute to the development of vibrant learning communities – situatedness, commonality, interdependency and infrastructure (Hung & Chen, 2001). World-class teaching and learning facilities will be unable to compensate for a learning environment that is not open and tolerant, and which fails to both support and challenge students not only to achieve their potential but to excel. Students should have opportunities to develop personally and socially and to become thoughtful and contributing members of a global society (McGill University, 2006), consistent with the overarching objectives of graduate attributes including scholarship, global citizenship and lifelong learning (Barrie, 2005b).

Although the obligation of the University is to put in place administrative and academic structures for distance education that are efficient, cost effective and student-centred, roles of individual members must be defined, articulated and communicated to the relevant stakeholders, and must be resourced with appropriately-trained staff and adequate funding. If the University is to become truly student-centred, then it must know and understand its students and their needs, and foster lifelong relationships with those students. Learner-centredness provides a basis for learner motivation and engagement through fostering an environment in which ‘learners will feel comfortable that their life world is included and that they are equal and legitimate participants’ (Tennant, 1997).

Although rules, regulations and policies are formulated by the administrative arm of the University to achieve an efficiently-functioning organisation, some of these may

be at odds with the promoted view of a flexible, student-centred learning environment. As Huberman (1992, cited in Postle, Richardson et al., 2003, p. 164) notes, ‘while change is ultimately aimed at improving student skills and attributes, these are rarely measured when the impact of change is judged’. Generic graduate attributes are considered to be the qualities, skills and understandings a university decides its students should develop during their studies with the institution (Bowden et al. 2000, cited in Barrie, 2005a). These attributes include but ‘go beyond the disciplinary expertise or technical knowledge that has traditionally formed the core of most university courses’ and are ‘qualities that also prepare graduates as agents of social good in an unknown future’ (Bowden et al. 2000, cited in Barrie, 2005a, p. 1). However, at postgraduate level, no graduate attributes are defined against which to map postgraduate program outcomes. Research suggests three overarching attributes as appropriate for postgraduate students – scholarship, global citizenship and lifelong learning (Barrie, 2005b). Such attributes can only be developed holistically through the total student learning experience arising from the organisational culture and cannot be developed through distance education studies that are carried out in isolation with little or no engagement with the University community.

For USQ to be truly flexible, learner-centred and supportive, consideration must be given to the students’ changing circumstances and the barriers that they face in undertaking and completing their studies (Berge & Muilenburg, 2000; Birch, 2006; Galusha, 2006; Muilenburg & Berge, 2001; Sherry, 1996; Spencer, 1994). USQ’s Vice-Chancellor presented the outcomes of a review of the University’s situation in 2007, in which the solution that was proposed to the many challenges identified at that time was ‘If not Distance, What? Flexibility!’ (Lovegrove, 2007d). Numerous dimensions of flexibility were identified including:

- *Different admission requirements* – many postgraduate programs require minimal workplace experience as a prerequisite to entry, although performance-based criteria for entry and progression would provide true open and distance learning.
- *Comprehensive RPL* (recognition of prior learning) – many students undertake postgraduate studies to formalise extensive professional experience that in many cases exceeds the experience of the academic facilitator. However, universities

appear reluctant to adopt a philosophy of recognising existing competencies, and this approach is consistent with the tenets of open learning.

- *Year-round enrolment and course registration* – flexible open learning places no artificial barriers in the way of access to a university education. Rigid semester structures exist predominantly for the convenience of administrative processes and for compliance with government regulations.
- *Own pace at which study is undertaken* – a fundamental principle of open learning is the recognition that students bring different knowledge, attributes and expertise to their studies, and that each student can progress at a different rate and along a different path to achieve their learning objectives.
- *Modular formats which may provide content alternatives and options* – performance-based criteria for entry to, and progression through, programs and individual courses would remove the need for many arbitrary pre-requisites in the way of study pathways.
- *Negotiated curriculum* – true open learning would allow flexible and individual study pathways based on knowledge, skills and attributes at the time of commencement, with curriculum determined by the student's desired learning outcomes.
- *Negotiated assessment content and time* – performance and competence-based study would allow assessment to be negotiated to align with students' learning objectives.
- *Open educational resources* – individual students will have different learning objectives for the same course, and those objectives would dictate the most relevant learning resources for each student. With vast amounts of information available through resource centres, the arbitrary selection of one text over another is questionable.
- *Different models and modes of study* – administrative constraints dictate the learning 'models' currently available, which include external, on-campus and online. Students are confused by the blurred boundaries between the modes for which students pay the same fees but receive significantly different resources and learning experiences. An online (WEB) student can pay the same fees as those of an on-campus student who receives access to the same online learning

environment as well as all printed and CD-ROM based learning materials, and who can participate in intensive workshops.

Although flexible entry and progression are achievable in an environment where technology can automate most administrative and academic aspects of study, University policies and regulations currently do not support this approach.

'I think there needs to be more scope for distance students to enrol when they can, even after the 'regular' students have started. I know my work commitments and I think even enrolling late, I would have been able to meet the requirements. As it is now, I am a semester behind which is a big issue' (student comment).

Prior academic qualifications and work experience are regarded as the indicators of likely success in postgraduate studies, although there appears to be no empirical evidence at present to support this view. A student with no prior experience of university study can be admitted to a postgraduate certificate program but is not allowed entry into a Master's program. The anomaly is that the student may be enrolled in courses in a postgraduate certificate program at the highest level of difficulty (8000 series at USQ) whereas many core courses undertaken in the early stages of a Master's programs are at a much lower level of difficulty.

'In my opinion, whether one has or has not an undergraduate degree prior to study (sic) this subject is irrelevant. What's relevant is that one must have adequate working experience and a desire to learn; because the combination of both will quantum leap one's learning experience' (student comment).

A better solution might be to re-write degree requirements to emphasise outcomes as the criteria for student progression and eventual completion as this 'shifts the major focus from selection at entry to students' ability to meet progression and completion criteria' (Sturman & Cronk, 2003, p. 120).

Students may choose to study in any or all of the three semesters (trimesters) offered by USQ subject to course availability (which is generally limited to one offering per

year) and pre-requisite study areas. Students are driven by the rigid timelines for enrolment, submission of assessment and examinations. An anomaly arises because the study materials and assessment requirements are readily available on the University LMS and could be accessed at any time to allow students substantially greater flexibility in commencement and progression. In the project management discipline, assessment items are mostly assignment-based and can be submitted electronically and marked at any time. With open entry requirements and progress based on successful completion of the relevant course requirements, a student could theoretically enrol at any time, complete the studies over any period of time that fits in with work, family or other commitments, and progress through the courses and program at a pace that suits the students' circumstances.

An increasing focus on lifelong learning, constructivist pedagogical approaches and learner-centredness within higher education has tended to refocus the design and implementation of learning programs on the learner experience (Kehrwald, 2007b) but 'the *marketisation* of education has changed the dynamics of the institution-student relationship' (Kehrwald, 2007b, p. 1). These forces emphasise the need for learner support within USQ in order to increase student satisfaction, retention and success – learner support 'adds value for learners' (Kehrwald, 2007b, p. 1). Research highlights that it is the total experience of study at university that 'shapes students' judgements of quality, motivates their engagement in learning, and optimises their retention' (Scott, 2006, p. xiii), and should incorporate flexible and relevant course design, committed and responsive staff, efficient administrative support, and relevant and integrated assessment (Scott, 2006).

'...it's really a paradox at the same time, the university is making all these changes... striving to improve its retention rates, and yet a lot of these decisions that we are making are actually having the opposite impact'
(Academic staff member).

Mason (2001, cited in Alexander, 2001, p. 89) sees 'time as the new distance' and indicates the need for USQ to support students in managing their limited time

effectively, and this has been confirmed as a major concern by students in the survey carried out for this study.

‘Balancing time between work, studies and family has been a big challenge’
(student comment).

Students consistently rate communication and support from teachers and other students as having the major influence on their learning experiences (Alexander, 2001, p. 88), and value ‘prompt and informative feedback on their work, clarity of teacher expectations of their work’ and ‘high levels of participation by other students’ (2001, p. 88). USQ has utilised technology to take over some of the routine functions of support through the use of automated ‘frequently-asked questions’ (FAQs) programs using expanding databases of responses to previous requests (Taylor, 2001b). A senior USQ staff member is of the view that the ‘major challenge confronting university leaders is how to boost academic productivity...through the integration of ICTs’ (Smith, 2005, p. 9), and that this technology can provide significant benefits through more effective use of staff time. The danger lies in the ever-increasing distancing effect of such technology, and the perception of isolation from real people – the nominal group has identified the need for a focus on the ‘humanity’ of USQ as an important aspect of building bridges to create a learning community.

5.4.2 Sub-principle A1

Sub-principle A1 provides guidelines for community building and achieving alignment within the organisational context of the teaching and learning environment:

University policies and regulations are based on values that balance the needs and interests of all members of the learning community. They are student-focused, supportive, and are implemented fairly and consistently across the community.

USQ is a large bureaucratic organisation where central administrative policies influence teaching and learning activities (e.g. assessment and grading practices) that have traditionally been the domain of academic staff. The autonomy of academic faculties has diminished, and senior leadership committees now exert considerable influence on the learning and teaching culture and practices of the organisation at an administrative level and at a pedagogical level. The members of the nominal group have identified that the University has an obligation to create a clear and coherent administrative framework for teaching and learning that is consistent with other aspects of the organisational context. The DELPHE framework provides an holistic framework that promotes alignment across all facets of the organisation, and in order to guide the development of coherent policies and regulations in building a learning community, the nominal group has suggested the following guidelines:

- *Develop lifelong relationships with students at a personal level*
- *Provide academic and non-academic support facilities to meet students' needs*
- *Allocate financial and human resources to improve academic staffing profiles and development of teaching skills*
- *Define and implement rules, regulations and policies that are pedagogically and procedurally consistent with organisational objectives.*

5.4.2.1 Develop lifelong relationships with students at a personal level

In order to offset student concerns about distance education and the sense of isolation commonly found at postgraduate level, the University must establish a personal and lasting relationship with students to align with the lifelong nature of postgraduate study. Smaller regional universities such as USQ have capitalised on their flexibility and ability to provide a more personalised learning experience for students.

Postgraduate students often progress incrementally through a suite of programs, and a personalised learning relationship with the University can be a significant factor in student retention and progression. Student success is related to the degree to which participants are able to cross a threshold from feeling like outsiders to becoming insiders, and 'social factors such as the degree of support, connectedness and peer

feedback have been found to be powerful determinants of success and satisfaction’ (Wegerif 1999, cited in McLoughlin & Luca, 2003). Students need to ‘feel the human touch’ (McLoughlin & Luca, 2003).

Relative to on-campus students, external project management students have become increasingly distanced from faculty-based staff who have traditionally been able to develop a personal relationship with students and guide their learning journey from start to finish. With the introduction of USQAssist and the restructuring of support elements within USQ flowing from ‘Realising our Potential’ (ROP), students are now directed to automated or centrally-located support functions with staff who are not well placed to develop a personal relationship with students because of the sheer numbers. Distance education students require an orientation to university study that:

- *‘supports goal commitment;*
- *provides real and symbolic interaction between academic staff and students;*
- *provides informal as well as formal contact to promote social integration;*
- *acts as a living institution in which the student feels an integral part; and*
- *most importantly, allows the student to become acquainted with, and train in, the techniques of independent learning and distance study through use of new forms of technological interaction’* (Peters 1992, cited in Lake, 1999, n.p.).

5.4.2.2 Provide academic and non-academic support facilities to meet students’ needs

As indicated in the survey data, postgraduate project management students study under difficult circumstances and support at a personal and academic level is critical for their success. In order to participate successfully in distance education, students must be able to bring together and establish congruence between learner attributes and circumstances (including prior experience), social/family/work environment (especially support structures), and the distance learning environment (including the context of delivery) (White, 2005). Learner support cannot be regarded as an ‘add-on’ to be provided during the course of the teaching semester, and must include all

elements that are ‘capable of responding to a known learner or group of learners, before, during and after the learning process’ (Thorpe, 2001, p. 4). Postgraduate distance education students must be recognised as ‘adults with *life responsibilities* who are prone to *life events*’ and that support structures to ‘facilitate personal and professional development within this context need to be in place’ (Dearnley, 2003) with coordination between academic, professional and social networks.

‘...compared with where we were maybe 15 years ago, or 10 years ago even, we probably offer a lesser service to our students’ (Academic staff member).

Many students are returning to study after a prolonged absence or are commencing study with no prior university experience. Learning environments are increasingly virtual and students in remote locations require advice and support in such areas as:

- meeting entry requirements,
- selecting appropriate programs and individual courses,
- choosing an appropriate study plan,
- negotiating exemptions based on workplace experience, prior study or professional memberships,
- adding or dropping individual courses based on changing circumstances,
- negotiating extensions for assessment where work or family events create conflicts, and
- deferring studies because of conflicting commitments.

Recent University policies and procedures such as ROP (previously referred to as the Cross-Divisional Efficiency Initiative (CDEI)) have been driven by a focus on efficiency and effectiveness and there is a risk that the ideals of student-centredness can be lost in the quest to reduce costs and improve administrative outcomes.

5.4.2.3 Allocate financial and human resources to improve academic staffing profiles and development of teaching skills

As part of the CDEI initiative, academic postgraduate programs have been rationalised and many non-performing programs and courses have been cancelled.

The reasons for the poor performance of individual courses and programs are not known. Empirical research would provide information to determine if factors such as inappropriate staff selection, lack of appropriate staff training, lack of suitable professional development, inappropriate workload allocation, inappropriate entry requirements, inappropriate assessment practices and poor marketing are contributing factors to the perceived performance of programs and courses.

Staffing requirements in the CDEI have been expressed in numerical terms with the quantum of academic staff calculated by student/staff ratios. Non-teaching criteria such as availability are used to select teaching staff who in many cases have little or no experience in distance education. Galusha identified barriers to learning in distance education and identified problems such as ‘lack of staff training in course development and technology, lack of support for distance learning in general, and inadequate faculty selection for distance learning courses’ (Galusha, 2006, n.p.). Faculties that teach distance education courses need organizational and administrative support from the institution, and ‘institutional leaders must be committed to distance education programs’ (Galusha, 2006, n.p.) or distance education is at risk of becoming a peripheral activity.

Mandatory professional development in the areas of learning and teaching are not embedded in University policies and procedures, but are made available to those who are in a position to take advantage of them. Staff who value professional development are often unable to participate due to high workload allocations, which leads to a self-perpetuating problem.

‘People just scramble. I don’t think that we have mechanisms yet to manage in a proactive explicit model of what we have to achieve’ (Senior academic staff member).

Teaching achievements are not automatically identified and recognised by the University as the process favours self-selection and self-promotion.

‘...where there’s a huge priority on maintaining the credibility of the University as a distance education university then a lot of the rewards should go there’ (Academic staff member).

5.4.2.4 Define and implement rules, regulations and policies that are pedagogically and procedurally consistent with organisational objectives

Responsibility rests with senior-level committees for procedural matters that could be dealt with by the faculties, with whom responsibility should lie as an autonomous entity for performance. Decision-making bodies appear to be focused on compliance with process, rather than outcomes for students. A recent external review of the University Academic Board determined that the Board did not fulfil its roles to a satisfactory degree where those roles included ‘responsibility for making recommendations to Council on academic policy and regulations pertaining to the operation of the University’ and monitoring the implementation of approved policy (Markwell, Cooper, & Hoey, 2008, p. 4).

5.4.3 Sub-principle A2

Sub-principle A2 provides guidelines for community building through the pedagogical framework of the teaching and learning environment:

The pedagogical framework for teaching and learning reflects organisational values and priorities, and encourages lifelong learning. It supports learner-centred teaching practices and fosters communities of practice across the organisation.

When there is alignment across the organisational context as reflected in sub-principle A1, the benefits of University policies, rules and regulations will flow through to the philosophy, high level pedagogy, pedagogical strategy and pedagogical tactics. To assist in building a learning community, the nominal group has suggested the following guidelines:

- *Focus on humanistic rather than mechanistic dimensions of the institution*
- *Define the role and status of distance education in the hierarchy of organisational priorities*
- *Align distance education teaching roles and activities with organisational priorities*
- *Define quality standards for learning resources*
- *Foster communities of practice across the organisation at all levels.*

5.4.3.1 Focus on humanistic rather than mechanistic dimensions of the institution

At the pedagogical level, personalisation of the relationship between student and University (McGill University, 2006) dictates a need for understanding and satisfying the learning needs and objectives of the students. Automated and centralised student support systems such as USQ*Assist* depersonalise the relationship between the University and the students. Automated systems may reduce the costs of support, but it is ‘a solution fraught with the ‘sought of problem wee no from spell cheques’’ (Biggs, 2003, p. 225).

5.4.3.2 Define the role and status of distance education in the hierarchy of organisational priorities

The profile of the Senior Leadership Committee appears to have altered with a reduced focus on recognised expertise in distance education, in contrast to the University’s mission identifying distance education as a core function of the University. The re-structuring of the Distance and e-Learning Centre (DeC) has removed distance education instructional designers from the production process. USQ’s reputation as a world leader in distance education has diminished with a reduced focus on research in this area, and many academic staff have little or no expertise in the development of distance education materials. Workload allocations for development of distance education study materials have been reduced and there is a perception that the quality of teaching materials is diminishing.

‘...as the numbers have grown in certain areas I don’t think we’ve had a support mechanism for academics to help them manage...the quality of the support available to the course leaders is varied as well and it is a threat to our reputation I believe’ (Senior academic staff member).

5.4.3.3 Align distance education teaching roles and activities with organisational priorities

Workload allocation formulae attempt to quantify and standardise the allocation of time for supporting distance education students regardless of program, discipline or level of program. Electronic communications and discussion forums place demands on academic staff for seven days of the week, and as one academic has indicated clearly, teaching in distance mode is ‘non-stop’ throughout the year.

‘We know we should be doing a lot of these things but my priority and my time just doesn’t allow us to do that’ (Senior academic staff member).

While teaching in one semester, it is necessary to develop or revise learning resources for the following semesters because of the long lead times. Academic staff often take responsibility for courses over extended time frames for development and updating, whereas faculties may allocate staff based on criteria of availability rather than discipline expertise. For USQ to deliver on its image as ‘the distance education experts’ (University of Southern Queensland, 2008e), it is essential that it develops and nurtures learning and teaching expertise in distance education.

5.4.3.4 Define quality standards for learning resources

USQ has traditionally provided comprehensive learning materials developed during the era of first-generation models of distance education (Taylor, 2001b). Current fourth-generation models of distance education utilise technology to provide access to large quantities of learning resources to the point where placing boundaries on learning resources is as important as identifying them. In order to adapt and modernise learning resources, workload allocations must provide academic staff with adequate time and training.

‘...distance education courses are ubiquitous. If you’re not actually teaching it in one semester then generally you’re updating all the materials or you’re working on a component of it so it’s there all year’ (Academic staff member).

5.4.3.5 Foster communities of practice across the organisation at all levels

Academic and support staff should collaborate on a University-wide basis to review and revise learning resources to ensure consistent quality across the University. Learning and teaching support activities are provided for staff, but in many cases, professional development activities preach to the converted. Academic communities of practice should be established at discipline and program level to identify the appropriate learning resources and to ensure consistency within and across programs and courses. This will help to re-establish alignment between organisational objectives and pedagogical outcomes.

5.5 Key Principle B

This section discusses the key principle that promotes learner-centredness and the sub-principles that provide guidelines for operationalisation of the key principle. Within the DELPHE framework, Key Principle B provides guidelines to assist the learning community in embracing a learner-centred philosophy as a key focus across all levels of the learning environment:

Interdependent relationships between teachers and learners encourage lifelong learning within a flexible and learner-centred environment.

The guiding sub-principles that support Key Principle B are discussed below and comprise:

- **Sub-principle B1** provides guidelines for learner-centred policies within the organisational context:

The organisational structure of the University provides support for learning communities that focus on the needs and outcomes of all key stakeholders

- **Sub-principle B2** provides guidelines for learner-centred practices within the pedagogical framework:

Consistent and uniform pedagogical values are adopted across the University community and underpin collaborative and constructivist teaching practices. Curriculum, content and assessment are flexible, negotiable and learner-centred, and provide scaffolded and staged learning across the program

- **Sub-principle B3** provides guidelines for learner-centred tasks and activities within the educational setting:

Learning tasks are flexible and developmental in nature, and encourage activities which are meaningful to the student and focus on the learning objectives across the program

5.5.1 Key Principle B – Learner-centredness

Among the many arguments for ‘student-centred learning’ (O’Neill & McMahon, 2005), a common thrust is the requirement for students to set their own goals for learning and to determine the learning resources and activities that will help them meet those goals. Because students pursue their own goals, ‘all of their activities are meaningful to them’ (Pedersen & Liu, 2003, p. 57), and dimensions to be considered include cognitive and metacognitive factors, motivational and affective factors, developmental and social factors and individual differences, in line with learner-centred psychological principles (Bonk & Cunningham, 1998, p. 29).

This focus on student-centred learning reflects the shift in power from the expert teacher to the student learner (Lea & Nicoll, 2002; O’Neill & McMahon, 2005). Students should learn what is relevant to their needs and in ways that are appropriate for their circumstances, and should include ongoing learning skills in order to stimulate self-directed lifelong learning (Burge, 1989). Learner-centredness is based

around a central, authentic, ill-structured and multifaceted question that creates a need for certain knowledge and activities (Pedersen & Liu, 2003), includes the change of role of the teacher to one of facilitation, and will require considerable levels of support from others in the learning community (Read et al., 2003).

In line with Key Principle A, student-centredness should also focus attention ‘on the students as human beings’ (Strang 1987, cited in Burge, 1988, n.p.), accepting that they bring prior learning experiences as well as emotional ‘baggage’. Learner-centredness requires ways of thinking and learning that ‘emphasise student responsibility and activity in learning’ rather than teacher delivery of curriculum through didactic teaching methods (Lea, Stephenson, & Troy, 2003, p. 321).

A key requirement for learner-centredness is the creation of interdependent relationships between learners as these are essential to foster collaboration by which students are ‘motivated to help one another and themselves to achieve’ (Abrami, 2001, p. 121). Interdependence between learners can be encouraged in many ways including sharing a common focus on learning outcomes, sharing successes, and having a sense of responsibility towards others. Eventually, interdependence is internalised as a core value of the learning community and the need for teacher involvement is minimised in the learning process (Abrami, 2001).

Most postgraduate students are returning to university study after a prolonged break or commencing university study for the first time, and it is important to ‘understand the emotional impact of returning to study as a mature learner’ (Dearnley, 2003). Students see the University as a ‘source of truth’, and believe that they are at the bottom of the pecking order and are reluctant to challenge authority (Dearnley, 2003). This adds to the feelings of anxiety that stem from a decision to return to study, and simple issues such as understanding how to use the library and a reluctance to ask for help can create a confronting situation for new students, regardless of age, status or level of experience in the workplace.

There are four overlapping roles for the distance education facilitator - administrative, pedagogical, social and technological (Bonk, Kirkley, Hara & Dennen,

2000), and the desirable characteristics of academic facilitators engaged in distance education in an online environment have been defined as motivated, approachable, visible, explicit, proactive, discrete, collaborative, technically capable and credible (Hislop 2000, cited in Reushle & McDonald, 2004, p. 6). Based on student feedback in national surveys, academic staff should have the following attributes – accessibility and responsiveness to student needs, skills to teach and convey knowledge, current practical experience in disciplinary practice, as well as ability to inspire through their personal enthusiasm and professionalism (Scott, 2006, p. 56).

There is little differentiation between the roles of teaching in face-to-face mode, by distance education, or online. Staff are expected to move seamlessly from one mode to another or to teach in multiple modes at any one time, even though staff may have never taught in distance education mode before. The work of faculty staff has become more complex and diverse due to continuous teaching activities throughout the year across three semesters, and an internationalisation strategy which has meant ‘working with multiple partners around the world to deliver variations to existing programs across different time zones’ (Peach, Millett, & Mason, 2005, p. 74).

The USQ LTSU provides many forms of professional development to assist academic staff, but there is limited recognition of a need for specific training for distance teaching. This may be because no clear recognition and definition of distance education teaching and the associated workload have been carried out and articulated. Administrative issues and requirements were articulated quite clearly by a senior academic:

‘...there has been very little recognition for the energy and the expertise and the outputs that staff have made in study materials, enhancements, videos and all sorts of things...in a promotional point of view we’ve gone from being very strong in that to now saying well you must be good at community, you must be good at research, you must be good at teaching, and that may work in other universities but I think here where there’s a huge priority on maintaining the credibility of the University as a distance

education...university then a lot of the rewards should go there' (Senior academic staff member).

Although there are many challenges associated with the introduction of educational technologies, the pedagogical benefits for learner-centredness are acknowledged by staff who teach in distance education mode:

'With the introduction of ICTs, particularly email, and more recently discussion forums, of course that is whether we like it or not, changing the way we work and changing the position on our time. It's a good thing from a pedagogical point of view; it's a very good thing because...we can do a lot more, because we've...got the dialogue back into the learning aspect of it. We've got interaction back into it, albeit, virtual interaction. So that's a positive thing' (Senior academic staff member).

However, there has been a price to pay for the introduction of those educational technologies with less and less time available for interaction with students in courses with large class sizes:

'...with large courses where we were purely distance education in the 80s, we didn't realise how well off we were. And the big thing about print-based distance education in the 80s, was that we spent a fair bit of time developing the packages, sending them out, taking three or four phone calls because the telephone wasn't a particularly good medium for contact, it was just cumbersome, and marking assignments, and that was it. With the introduction of ICTs...it's forcing us to think about the business model for these large courses because we cannot sustain workloads under the current model unless we recognise that if we want to be effective in this new era of ICTs in large courses, we've got to think...of a student/staff ratio of 20 to one again, back to our old classroom sizes, versus a thousand to one' (Senior academic staff member).

This situation can act as a disincentive for staff to become actively involved in distance education. Apart from the challenges of learning to use educational technologies efficiently and effectively, the prospect of having sole responsibility for five hundred to a thousand students is daunting. Engagement of teaching staff who excel in classroom environments in a distance education environment is important to ensure that pedagogical standards are maintained, and the University should ‘establish a reward system that motivates instructors to make the considerable extra effort’ (Markel, 1999, p. 220).

5.5.2 Sub-principle B1

Sub-principle B1 provides guidelines to assist the learning community in embracing a learner-centred philosophy across the organisational context:

The organisational structure of the University provides support for learning communities that focus on the needs and outcomes of all key stakeholders.

The initial step in the creation of a learner-centred learning environment is a central philosophy that acknowledges the importance of ‘providing education and training in a way that prioritises learners’ needs, rather than institutional convenience’ (O’Rourke, 2003, p. 18). To ensure that these outcomes are achieved, the nominal group has suggested the following guidelines:

- *Define expectations for teaching roles and practice*
- *Engage academic staff in distance education teaching mode*
- *Recruit, develop, recognise, promote and reward academic staff relative to learning outcomes*
- *Recognise and reward staff for practical industry knowledge and experience*
- *Incorporate student feedback into teaching practices.*

5.5.2.1 Define expectations for teaching roles and practice

Priorities for teaching staff within the University include the traditional activities related to teaching, research and public service, but there is an ongoing ‘need for reassessment of academics’ roles and responsibilities’ (McInnis 2000, cited in Latchem & Hanna, 2002, p. 208). Within the University, there is no uniform nor consistent framework and guidelines around which teaching and learning practices are developed. The postgraduate project management programs are offered in print-based external mode, online and in intensive workshop mode and although all modes utilise a common online learning environment, different academic staff members may have responsibility for different modes during the same semester. Students and staff can be unclear as to their respective roles and responsibilities.

Responsibility for course leadership can change from semester to semester creating a loss of continuity with no sense of ownership and responsibility. Latitude is provided to academic staff in relation to the way courses are managed, how assessment is designed and administered, how communication channels are managed, and the extent to which online environments are utilised for teaching and learning. This flexibility has advantages in that innovative teaching and learning practices can be developed, but without the sharing of good teaching practices and their outcomes within a team culture, students receive conflicting information to guide their expectations of the respective course facilitators. In the absence of a framework to guide development of effective teaching practices, few of the best teaching practices filter down to the lower levels of teaching staff to improve teaching outcomes.

5.5.2.2 Engage academic staff in distance education teaching mode

Faced with the problems indicated above, many academic staff members resist becoming involved in distance education. To counter this, the University must engage the widest range of academic staff in distance education and ensure that teaching practices evolve through professional development, with recognition and rewards for effective teaching practices.

5.5.2.3 Recruit, develop, recognise, promote and reward academic staff relative to learning outcomes

Preparation for distance education courses commences six to nine months before the semester commences, adding to the academic workload and creating conflict with research activities planned for so-called 'non-teaching' semesters. In distance education, there is no such thing as a 'non-teaching' period.

'I think there needs to be a recognition that because we're a distance education University that that changes the priorities, or that should have an impact on the priorities of staff and the rewarding of staff because they...distance education courses are ubiquitous. If you're not actually teaching it in one semester then generally you're updating all the materials or you're working on a component of it so it's there all year. Whereas if you're just teaching on-campus, you teach a course – it's gone and you might not touch it again until you next teach it on campus but with external it's always there' (Senior academic staff member).

There is little recognition of a specific skill set required for distance education and there is limited guidance in the development of learning resources. Existing materials are used as exemplars of 'good' learning resources, whether they are or not. Specialised expertise in distance education and postgraduate teaching is not always identified as a specific skill set.

'I can hark back to an example when I went for promotion - I think to Senior Lecturer - and they wouldn't recognise the fact that I had written nine study books...nine courses...and they said that they're not publications and that that was why I was employed - to set up a whole new program along with some others and...so you sort of say well, whilst the stated priority of the University is distance education they're going to reward staff for doing other things and so you know, I think that's one of the things that needs to change but I can't see it changing' (Senior academic staff member).

5.5.2.4 Recognise and reward staff for practical industry knowledge and experience

Postgraduate studies such as project management are a blend of underpinning theory and specific vocational competencies. For an holistic learning experience, project management students must develop competencies (Crawford, 2002, p. 6; Frame, 1999) in specific areas related to the discipline such as the use of information and communication technologies in general, project scheduling and budgeting software and risk analysis programs, but there is little encouragement, allocation of resources nor ongoing reward structures for staff to acquire practical industry-based skills that can be incorporated into situated-learning for the benefit of students (Boulton, 2002; Herrington & Oliver, 1999; Lave & Wenger, 1991).

5.5.2.5 Incorporate student feedback into teaching practices

Student response rates to formal University-wide surveys have traditionally been extremely low and limited information has been obtained from the data to influence and improve teaching and learning practices. Factors that inhibit student learning include anxiety as to what is expected of students, situations where students are left to themselves without much guidance from lecturers and lecturers who are seen as unapproachable (Lea et al., 2003). Enabling factors for learning have been identified as lecturers who are dynamic, inspirational and enthusiastic. The student voice remains mostly unheard in the discussions and decision-making processes at organisational and faculty level, and little is known about the complexity of the circumstances under which postgraduate students attempt to learn, nor their learning needs and objectives.

5.5.3 Sub-principle B2

Sub-principle B2 provides guidelines to assist the learning community in embracing a learner-centred philosophy across the pedagogical framework:

Consistent and uniform pedagogical values are adopted across the University community and underpin collaborative and constructivist teaching practices. Curriculum, content and assessment are flexible, negotiable and learner-centred, and provide scaffolded and staged learning across the program.

Sub-principle B1 established the importance of cultivating a student-centred philosophy across the organisational context, and achieving alignment between the roles, priorities and responsibilities of academic staff and that organisational philosophy. With their roles defined, and with adequate resources, the academic facilitator is able to create an effective learner-centred environment for postgraduate distance education students. To achieve these outcomes, the nominal group has suggested the following guidelines:

- *Adopt a developmental approach to learning*
- *Achieve a balance between pedagogy and discipline-based content*
- *Foster academic communities of practice to provide mentorship and achieve consistency across course and program levels.*

5.5.3.1 Adopt a developmental approach to learning

Vygotsky's Zone of Proximal Development is where a learner is able to move from her or his current stage of development to her or his potential capability 'as measured by what can be accomplished *under guidance or in collaboration with more capable peers*' (Vygotsky 1978, cited in Mayes & de Freitas, 2004). A developmental approach to learning requires an outcomes-based approach to education rather than a 'deficit-based' system that sees learning as a process where students are simply lacking knowledge.

A developmental approach to learning is based on a constructivist philosophy of education where 'more formal methods of teaching, competitive assessment and placing the disciplines centre stage give way to a situation where teachers 'facilitate', students are described as 'knowledge navigators' and dispositions and attitudes take priority over received knowledge' (Donnelly, 2007, p. 183). Four important issues to

be addressed in the development of effective open and distance education include being a learner-centred instruction, interaction, social presence and collaborative learning (Gunawardena & Zittle, 1996), and the outcomes of this study are consistent with those findings. Project management education requires knowledge and understanding of a relevant globally-accepted Body of Knowledge (BOK) as well as mastery of the many tools used in the definition, monitoring and control of complex projects. Learning the norms, procedures and knowledge frameworks of a discipline is essential for the novice to be enculturated into the patterns of thought and language that characterise that community of practice (Mayes, Dineen, McKendree, & Lee, 2002; Wenger, 1998), and individuals are only able to move from being novices to experts through a combination of instruction (Taylor, 1994), experience and participation in that community of practice (Wenger, 1998).

A learner-centred developmental model can be based on a continuing cycle of conceptualisation, construction and dialogue (Mayes, 2001). Developmental learning requires guided construction to give the learner an active part in their own learning, constructing their own knowledge in a way that resembles the discovery approach and which ‘values the ‘floundering’ that is involved when one does not quite know how to solve a problem (Goodyear & Jones, 2004, p. 13). It values subsequent reflection, through which one makes sense of the experience, and values the ability to stand back from one’s learning and problem-solving, in order to take stock and switch to another strategy if appropriate. It also gives a legitimate role to ‘outside sources of guidance and support’ (Goodyear & Jones, 2004, p. 13).

Postgraduate students generally bring a wealth of knowledge, skills and expertise to their studies by virtue of their age and experience, as well as specific and unique learning objectives, and it is important that their studies provide an individual learning experience to meet those needs in a collaborative and constructivist learning setting.

‘...some course leaders have said that their students can be more knowledgeable in some areas than the actual course leader because they’re practitioners in that specialist area’ (Instructional designer).

The diversity of students must be considered in a student-centred learning environment as a student's life experience 'is relevant to every facet of the learning process' and the teaching process must take into account the 'whole learner' (Burge, 1989). Developmental learning requires an environment that is not only supportive and collaborative, but also challenging, and when any of these is missing, personal development is low. If the environment encountered by the student is too challenging and overwhelming, especially in the absence of support, students will become overwhelmed and retreat from the experience (Dearnley, 2003).

5.5.3.2 Achieve a balance between pedagogy and discipline-based content

Although content knowledge may be regarded as the most important competency of a teacher (Simonson, 2000), a contradiction in professional education emerges when a narrow focus is taken on the delivery of discipline-based content at the expense of learner-centred objectives and needs for a diverse cohort of students. Student-centred approaches are 'rooted in constructivist epistemology where knowledge and context are inextricably connected, meaning is uniquely determined by individuals and is experiential in nature, and the solving of authentic problems provides evidence of understanding' (Lea et al., 2003, p. 322). The role of the facilitator at postgraduate level is not to teach organised content but to work with students to establish a collaboratively owned system through which both the individual members can learn and grow and students can decide what is worth knowing (Parchoma, 2003) and 'exert ownership over their own learning' (Barab et al., 2002, p. 531). A critical aspect of teaching and learning is understanding and influencing what the learner is actually doing (Biggs, 1999) but this raises difficulties at the level of postgraduate education and more so within a distance education environment. Ideally there should be constructive alignment between the curriculum, the teaching methods, assessment procedures, the educational environment created by the University and the learning outcomes that are expected of students (Biggs 1999, cited in Goodyear, 2002).

5.5.3.3 Foster academic communities of practice to provide mentorship and achieve consistency across course and program levels

Alternative learning and teaching models have progressively achieved a more integrated approach to professional education rather than being discipline-focused (Educational Technology Expertise Center, 2004). In such models of learning, academic teams should be formed to encourage the formation of communities of practice and provide flexibility in the allocation of teaching resources. In this environment, assessment requirements can incorporate group activities to encourage collaboration and autonomous learning.

As well as training in the use of the technologies, development of the essential competencies in distance education requires an understanding and appreciation of how independent and autonomous learning takes place at a distance. Consideration must be given to the demographic and personal profiles of students, the learning settings within which students study, the resources to which they require access, and the levels of support that they seek. Development of communities of practice across programs and disciplines comprising experienced and inexperienced distance education teachers can help to create a team culture and raise the quality of teaching and learning outcomes (Wenger, 1998).

5.5.4 Sub-principle B3

Sub-principle B3 provides guidelines to assist the learning community in embracing a learner-centred philosophy at the level of the educational setting:

Learning tasks are flexible and developmental in nature, and encourage activities which are meaningful to the student and focus on the learning objectives across the program.

With limited contact with the individual distance education students, it is difficult for academic facilitators to understand how students' individual circumstances impact on their ability to undertake studies and their approach to learning. To assist in creating

effective learning activities and tasks for students, the nominal group has suggested the following guidelines:

- *Avoid ineffective use of students' time*
- *Make allowance for technological constraints in students' personal learning environment.*

5.5.4.1 Avoid ineffective use of students' time

This study has indicated that students tend to work in short bursts in between competing demands on their time, and that they are 'time poor' (Gibson, 1998). The academic facilitator should respect those limitations on time and impose only those learning tasks that are essential and which contribute directly towards achieving the learning objectives. Summative assessment activities should be clearly defined and differentiated from formative activities that can be undertaken where time and opportunity exist. A learner-centred philosophy should respect the students' abilities to think for themselves, and to choose what to study, how to study and why a specific area of study might be of value as learners progressively accept full responsibility for their learning (Burnard 1999, cited in O'Neill & McMahon, 2005).

Students should be 'meaningfully engaged in learning activities through interaction with others and worthwhile tasks' which involve 'active cognitive processes such as creating, problem-solving, reasoning, decision-making, and evaluation' (Kearsley & Schneiderman, 1999, p. 1). There should be clearly defined learning outcomes, well-chosen learning tasks and appropriate forms of assessment (Goodyear, 2002). Collaborative teams should work on 'ambitious projects that are meaningful to someone outside the classroom' (Kearsley & Schneiderman, 1999, p. 1) and authentic learning activities should take place in a group context (i.e. through collaborative teams), be project-based, and have an outside (authentic) focus.

5.5.4.2 Make allowance for technological constraints in students' personal learning environment

Within the University setting, computing facilities are regularly updated and teaching staff have almost unlimited access to high-speed broadband internet access for communication and research purposes, in contrast to the limited technical environment available to many students. Limited access to computing facilities, intermittent internet access, competing demands from other family members or work colleagues, and cultural barriers are some of the problems faced by students working in offshore countries or in remote sites where many project managers are required to work.

A limited ability to download large multimedia files and restricted access to software programs and hardware accessories such as cameras and hard disk drives are problems encountered by distance education students. Unnecessary requirements to use technology can discriminate against students who are disadvantaged by these limitations.

5.6 Key Principle C

This section discusses the key principle that promotes collaborative learning and the sub-principles that provide guidelines for operationalisation of the key principle. Within the DELPHE framework, Key Principle C provides guidelines to facilitate collaborative learning across all levels of the learning environment

Communities of learners provide a rich social environment for deep learning through interaction and engagement aimed at development of higher-order intellectual skills and abilities.

The guiding sub-principles that support Key Principle C are discussed below and comprise:

- **Sub-principle C2** provides guidelines for collaborative learning practices within the pedagogical framework:

Teaching and learning strategies and practices encourage students to interact and engage with other learners in a social learning environment.

- **Sub-principle C3** provides guidelines for collaborative tasks and activities within the educational setting:

Learning tasks incorporate group activities that take place in a collaborative learning environment to simulate real-life settings.

5.6.1 Key Principle C – Collaborative learning

Collaborative learning is an approach to learning in which two or more students at various levels of experience and ability work together in small groups toward a common learning goal (Dillenbourg, 1999; So & Brush, 2008). Ideally, this should extend across an extended activity such as completing a course (subject) across an entire semester although it may be for an activity of short duration such as one item of assessment, and the togetherness may be entirely virtual with no prerequisite for face-to-face communication. The learning will occur as a side effect of joint problem-solving and is facilitated through interactive activities such as conversation and negotiation. Ideally it will lead to an environment where postgraduate students are able to take responsibility ‘for one another’s learning as well as their own’ (Gokhale, 1995, p. 22). Through collaborative learning, students will share mental models and observe the thought processes of other students, and are then able to progress beyond what they would have been able to achieve in isolation (Bower & Richards, 2006). It is through the process of interacting with others that the activities such as conflict or consensus-making take place that create the value to be derived from collaborative learning (Dillenbourg, 1999). It is also beneficial in terms of developing many of the generic graduate attributes expected of postgraduate project management students including team-building, communication skills, problem-solving skills, negotiation skills, social skills and empathy (Bower & Richards,

2006). In contrast, more traditional teaching approaches tend to encourage individual and competitive skills which may be at odds with what is required in the project management workplace (Kennedy & Duffy, 2004).

Consistent with constructivist models of teaching and learning, collaborative learning will encourage the formation of communities of learners within a rich social environment but this is not a process that can be mandated by course facilitators. What is suggested is to set up 'organisational forms or structures that are likely to be conducive to the formation and well-being of learning relationships from which learning communities may emerge' (Goodyear, 2002, p. 66). Within such communities, learners will experience 'multiple perspectives of other distance learners from different backgrounds' (So & Brush, 2008, p. 320) and are then in a better position to develop critical thinking skills and other higher-order intellectual skills and abilities by means of negotiating their learning outcomes in the context of those different viewpoints.

Distance education students' perceptions of isolation, with the associated levels of transactional distance (Moore, 1993), can be minimised in an environment where the level of dialogue is significantly increased, and students who experience higher levels of collaborative learning as an integral part of their studies will be more satisfied with their distance studies (So & Brush, 2008). As a form of learner/learner interaction (Moore, 1989), collaborative learning uses social interaction as a means of knowledge building where educators can learn to trust students to perform in appropriate ways (Bruffee 1999, cited in McInnerney & Roberts, 2005). In contrast to collaborative learning, co-operative learning (Dillenbourg, 1999) takes place when students work independently and share tasks only in order to achieve a common goal, but there may be little in the way of interaction nor collaboration. Collaborative learning requires a level of engagement and interaction between the students who can then take control of their learning in order to solve defined problems (McInnerney & Roberts, 2005).

Collaboration goes beyond mere interaction which may or may not lead to positive learning outcomes. Student/student interaction that is limited to simple social

activities will lead to shallow learning outcomes and may even lead to negative forms of communication such as ‘flaming’ and abuse (Woods & Baker, 2004). Collaboration occurs in rich social surroundings that provide a sense of social presence and immediacy but this must be closely managed and controlled. Course facilitators must create and manage the environment for collaboration to occur, and they will require support from other members of the learning community across all levels of the University (Kennedy & Duffy, 2004). There are numerous variables that will impact on the effectiveness of the learning outcomes that arise from collaboration among students’ cohorts and these include the composition of the group, the nature of the learning tasks and the communication medium (Dillenbourg & Schneider, 1995), and these are part of the environmental factors to be managed by the course facilitator.

5.6.2 Sub-principle C2

Sub-principle C2 provides guidelines for facilitation of collaborative learning through the pedagogical framework of the teaching and learning environment:

Teaching and learning strategies and practices encourage students to interact and engage with other learners in a social learning environment.

Postgraduate learning at a distance is most effective when it takes place in a collaborative, constructivist environment (Anderson, 1998; Bonk & Cunningham, 1998; Garrison, 1993; Goodyear, 1999; Jonassen, 2003a; McLoughlin et al., 2000), and to assist in achieving such an environment, the nominal group has provided the following guidelines:

- *Create interactive, social and collaborative learning environments*
- *Foster student communities of practice to engage all students including those on the periphery*
- *Utilise technology to foster virtual learning environments and online social presence.*

5.6.2.1 Create interactive, social and collaborative learning environments

A requirement of the academic facilitator in postgraduate distance education is to create a learning environment based on meaningful activities and tasks and authentic assessment, in which distance education students collaborate with their peer group members in academic and social activities to improve learning outcomes. Meaningful learning (Bonk et al., 2002; Novak, 2002; Shuell, 1990) requires a learning environment built on ‘authentic tasks’ and ‘problem-based thinking’ (Jonassen, Davidson, Collins, Campbell, & Bannan Haag, 1995, p. 21) where teaching moves away from an ‘empty vessel’ mindset to a student-centred interactive style (Kember & Gow, 1994, p. 70).

A ‘community of inquiry’ (Garrison, Anderson, & Archer, 1999, p. 97) is essential to support meaningful learning and to develop desirable postgraduate project management attributes such as critical thinking and discussion, but the means by which this can be achieved in distance education are unclear. Meaningful learning takes place where ‘the learner chooses conscientiously to integrate new knowledge to knowledge that the learner already possesses’ (Novak, 2002, p. 2), and this requires meaningful learning experiences in a collaborative social environment and ‘stimulating students’ thinking through real world problems’ (Gokhale, 1995, p. 30). The view that students in on-campus conventional study programs are engaged for most of the time in meaningful, face-to-face interaction is a myth (Bates, 1991) as most of their studying is done alone, interacting with the learning resources. In distance education, learning tasks and activities can be planned to counteract the isolation that is incorrectly seen as an attribute of distance education alone (Bates, 1990). Emerging online learning technologies provide a vast array of opportunities to address the problems of isolation and to increase interaction through large- and small-scale discussion forums, web-conferencing, group assessment activities, self-reflection and peer assessment.

Interaction within the educational setting is important for distance education students to ‘establish a personal connection to other students and the instructor’ (Dykes, 2001, p. 3). The benefits of this interaction are that students are forced to confront each

other's ideas, they can serve as scaffolding to help each other accomplish learning tasks that might not occur in a solitary environment, they can obtain additional meaningful feedback, and they can experiment and construct new ideas (Dykes, 2001, p. 2). 'Deeper' learning, where students actively search for knowledge and understanding, can be facilitated through interaction between students and thereby 'enabling learners to take an active role in learning by initiating, managing, monitoring, reflecting and evaluating learning tasks and processes' (McLoughlin & Luca, 2000, p. 634).

5.6.2.2 Foster student communities of practice to engage all students including those on the periphery

Through the design of meaningful or authentic learning tasks and activities (Goodyear & Jones, 2004; Herrington & Herrington, 1998; Shaffer & Resnick, 1999), and by development of a supportive and interactive learning environment, students will be encouraged to develop communities of practice (Hung & Chen, 2002; Jonassen & Land, 2000; Wenger, 1998) which can be sustained throughout the individual courses, the entire program and beyond. For a community of practice to evolve, students require the opportunity for interaction and access to authentic activities, 'old timers', peers, relevant information, adequate learning resources, and opportunities for participation (Bird, 2001, p. 97). By participating in an activity within a community, people's behaviour or identity changes, and in the process, students become 'better prepared to engage in subsequent similar activities' (Hung & Chen, 2002, p. 248). With provision of appropriate communication channels, more experienced students are able to mentor newer students (Chivers, 2006; Marra & Pangborn, 2001) and provide advice on issues that a new student might feel uncomfortable about taking directly to the academic facilitator. Academic facilitators must relinquish some of the traditional control that they have enjoyed in order for the students to accept greater responsibility for their learning. The challenge is to provide 'supportive rather than intervening learning environments' (Jonassen, Mayes & McAleese, 1993, cited in McLoughlin & Luca, 2003, p. 3) where the teacher becomes a co-learner.

Postsecondary educators have often failed to ‘study the learner with the same devotion with which they have studied the information they expect their students to study?’ (Moore, 1998, p. 2), and the nature of postgraduate students and their circumstances as individuals and as a cohort receive far less attention and consideration than those of undergraduate students (Beattie & James, 1997; Donaldson & McNicholas, 2006; Hislop, 2000; Lee & Green, 1998).

The modularised structure of postgraduate education and the ease of access through educational technologies has the potential to provide students with a choice of programs, subjects, modes of study, entry points, progression rates and study paths, and postgraduate students could effectively design their own program of study subject to institutional constraints (Bradley & Oliver, 2002). A postgraduate student in the project management program may find that members of her/his peer group are located across the world, in a number of different academic programs, and at various stages of progress through the program. Postgraduate distance education students are no longer part of an homogenous group with common objectives nor outcomes and this diversity demands not only the need for administrative flexibility but also the need for an individual learner-centred approach to teaching and learning.

‘...if you’ve got a thousand students in the course...the massification of education has impacted on what we do as well so we’d have to streamline a lot of the things and make it very standard...and a lot less flexibility’ (Senior academic staff member).

Although ‘distant learners in one country are more like those in other countries than they are different’ (Moore, 1998, p. 3), their circumstances are seen to be diverse in many other ways. They should not be treated as an ‘homogenous group’ and fundamentally it is really ‘education for each’ (Thompson, 1998, p. 10) at a personalised and individual level. Attributes that distance education students do tend to share include:

- They are remarkably motivated,
- They are task-oriented and highly focused, and

- Their educational setting is less favourable to learning and in some cases ‘hostile’ (Moore, 1998, p. 4).

5.6.2.3 Utilise technology to foster virtual learning environments and online social presence

Technology has provided increased access to learning resources, and encouraged interaction with and between students and academic facilitators (Taylor, 2001a). There are numerous challenges in providing effective teaching and learning in a purely-online, or networked, environment (Garrison et al., 2004; Goodyear et al., 2001; Kearsley, 1998; Lockwood, 2002; McNaught, 2002; Oliver, 2001; Postle & Sturman, 2003b; Steeples et al., 2002), but technology has now overcome many aspects of isolation experienced by students. Broadband technologies allow students to have access to a wide range of learning resources provided by the learning institution as well as encouraging independent research to develop or locate more personalised and relevant resources by the students as independent learners.

Communication in one-to-one, one-to-many and many-to-many scenarios are encouraged as part of the collaborative and social networks discussed earlier. There are benefits for students in the creation of a learning environment that harnesses ‘social presence’ which Garrison (2004) sees as a critical component of a community of inquiry. Social presence is ‘the ability of participants to coalesce for a common purpose’ (Garrison et al., 2004, p. 63), and promotes interaction by allowing students to become known to others, encourages the development of relationships and trust, and supports the ‘development of a sense of community and collaboration’ (Kehrwald, 2007a, p. 185).

5.6.3 Sub-principle C3

Sub-principle C3 provides guidelines for facilitation of collaborative learning within the educational setting:

Learning tasks incorporate group activities that take place in a collaborative learning environment to simulate real-life settings.

An interactive and collaborative environment is essential for effective distance education, and to foster interaction and collaboration as an integral part of the learning tasks and activities, the nominal group has suggested the following guidelines:

- *Foster interaction with other students and industry practitioners; and*
- *Actively participate in social learning environments for students such as discussion boards.*

5.6.3.1 Foster interaction with other students and industry practitioners

Interaction within the student cohorts does not automatically guarantee participation by students, nor effective learning outcomes. Postgraduate professional education is far more than the acquisition of new information and skills, and it is essential to facilitate learning as ‘a social activity, where knowledge and skills are demonstrated, criticized or merged’ (Downes, 1998, n.p.). Interaction and collaboration should be facilitated through day-to-day social activities, formal interactive activities set down as formative or summative assessment including participation in discussion forums, group exercises and group assignments (Anderson & Garrison, 1998). Opportunities must be provided to negotiate meaning, diagnose misconceptions, and challenge accepted beliefs through interaction with others as these are ‘essential for deep and meaningful educational experiences’ (Garrison et al., 1999, p. 91).

‘Meaningful learning’ has multiple dimensions which anchor new learning in the cognitive structures in order to eliminate rote learning (McIsaac & Gunawardena, 1996). A constructivist learning environment will place the teacher as the facilitator in the learning process and learning will take place as the student ‘actively participates, interpreting, processing and constructing new knowledge’ (Morris, Porter, & Griffiths, 2004, p. 92). Both learning and assessment must be contextualised, and alignment within the educational setting cannot be achieved

without consideration of ‘active learning processes, interactive learning which allows collaboration of instructor and students in the process, a cooperative learning environment, tasks which provide individual engagement of the learner, opportunities for reflection, and meaningful learning experiences which relate to the student’s own ‘world’ (Morris et al., 2004, p. 92). Communities of practice (Lave & Wenger, 1991) play a vital role in ‘fusing individuals to communities’ (Barab et al., 2002, p. 495), and highlighting the importance of communities in ‘legitimizing individual practices’ (Barab et al., 2002, p. 495). Within these communities, learners can then move from legitimate peripheral participant to core participant of the community of practice where the primary motivation for learning involves activities that are meaningful to the community and which move the learner toward becoming more central to a community of practice (Barab et al., 2002).

The learning community must also be extended beyond the academic facilitator and the students to include workplace and industry participants to provide multiple perspectives on the context and the content of the curriculum. Workplace relevance has been shown to be one of the strongest predictors of overall course satisfaction (Kabanoff, Richardson, & Brown, 2003), and exposure to workplace and industry practices has been shown to facilitate informal learning in a professional context (Chivers, 2006). These concepts and the significance of work-integrated learning and workplace-based learning are discussed in a later section on situated learning. Postgraduate education incorporates a responsibility to prepare students for the workplace (Crebert, 2002; Seagraves, Kemp, & Osborne, 1996) and involvement of practitioners in the communities of practice formed by distance education student cohorts is an essential part of that preparation.

5.6.3.2 Actively participate in social learning environments for students such as discussion boards

The academic facilitator should be an active participant in the interactive processes consistent with a policy framework that should be set down at the University, faculty, program and discipline levels. Teaching presence is essential in the management and monitoring of ‘the cognitive and social dynamic to create a purposeful community of

inquiry’ (Garrison et al., 2004, p. 63), and this requires the academic facilitator to understand the medium, utilise it to achieve intended educational experiences, and to assist with the role identity adjustment of the students. The role of the teacher is primarily that of ‘coach’, with other students also providing support through communication within collaborative groups (Herrington, Oliver, Herrington, & Sparrow, 2000, p. 11).

5.7 Key Principle D

This section discusses the key principle that promotes situated learning and the sub-principles that provide guidelines for operationalisation of the key principle. Within the DELPHE framework, Key Principle D provides guidelines to facilitate situated learning across all levels of the learning environment.

Professional expertise is progressively developed through collaborative learning that seeks solutions to real-life problems situated in authentic contexts.

The guiding sub-principles that support Key Principle D are discussed below and comprise:

- **Sub-principle D1** provides guidelines for situated learning policies within the organisational context:

The University provides support for external stakeholders to be members of the learning community, and promotes a learning environment that includes external workplace and industry settings.

- **Sub-principle D2** provides guidelines for situated learning practices within the pedagogical framework:

Teaching and learning strategies and practices encourage learners to build upon existing professional knowledge and skills, and situate new learning in authentic environments.

- **Sub-principle D3** provides guidelines for situated learning tasks and activities within the educational setting:

Learning tasks include activities that seek solutions to real-life problems situated in realistic workplace settings.

5.7.1 Key Principle D – Situated learning

There are many views on the development of professional expertise required for competent project managers. Through active participation in communities of practice, new learners are able to adopt the ways of experts or oldtimers (Lave & Wenger, 1991). Taylor (1994) has identified the knowledge structures that must be mastered for the transition from novice to expert (item-specific, relational, strategic, empirical and affective), and theoretical frameworks have been developed to provide guidelines on the dimensions of competence that are required for a professional to be regarded as competent (Cheetham & Chivers, 1998). Common to all of these approaches is recognition of the value of experiential learning that is situated in authentic contexts.

Key Principle C has examined the value of collaborative learning in achieving effective learning outcomes. For those learning outcomes to be achieved, collaborative learning tasks and activities must be located in authentic contexts (Bonk & Cunningham, 1998) in order to address the potential barriers that are inherent in distance education. These barriers include the potential for lack of alignment between work practices and learning activities, and the sense of isolation that comes from a learning setting that does not provide meaningful interaction within communities of practice where members jointly hold a ‘socially-constructed view of the meaning of their subject knowledge and what it takes to be an expert in the field’ (Lave & Wenger 1999, cited in Bird, 2001, p. 96). As part of this study, students have reinforced clearly their sense of isolation and their lack of interaction with practitioners and with other students:

'I live and work in a remote location, with little access to mail and an unreliable internet connection' (Student).

'Nature of the beast, but feel very isolated. No support network to have any one to one contact' (Student).

'Though my family was supportive during my studies, I always felt guilty and isolated' (Student).

'I find I feel very isolated as I have done all my studies by distance education. The ability to just have a decent discussion on study issues has not been available' (Student).

'Occasional feelings of despair and helplessness' (Student).

'Studying externally can be a very lonely business. It helps to have someone from the University to provide encouragement and motivation' (Student).

Within the University, distance education practices must facilitate learning tasks and activities in authentic contexts so that dimensions of student interaction extend beyond just the learning resources. A characteristic of early generations of distance education (Taylor, 2001b) was little if any interaction between student and the peer cohort, and limited interaction between the student and the academic teaching staff. In the project management program, most learning tasks are designed to be completed on an individual basis, and the context of the learning is limited to what the students bring to their studies. This lack of contextualisation remains a major constraint on distance learning and is reflected in the comments by students:

'...distance education is not suited if you want a large amount of interactions with fellow students or industry experts' (Student).

'I want advice from someone who worked in the industry' (Student).

A relevant and meaningful context must be created where the learner is able to move from a situation of peripheral participation to more central participation (Lave & Wenger, 1991), and through ‘enculturation’, people’s behaviour and identity can progressively change as they take on the role of practitioner (Hung & Chen, 2002, p. 248). Contextualised or ‘situated’ learning should be facilitated through the following:

- The learning environment must reflect the way in which the learning will be used,
- Learning tasks should be ill-defined and relate to real-world problems,
- Students should have access to various levels of experts in the field,
- Students should have access to multiple perspectives,
- Learning tasks and activities must be undertaken within group environments,
- Students should be offered opportunities to compare their developing level of expertise with that of more expert practitioners,
- Students should have opportunities to articulate and defend their views,
- Coaching and scaffolded assistance should be available, and
- Assessment should be aligned with learning objectives, learning tasks and activities (Herrington et al., 2000).

There is growing recognition of the need to build into University courses more opportunities for students to ‘combine their learning of discipline-specific knowledge and approaches with practical skills which may be of use in the workplace’ (Livingstone & Lynch, 2000, p. 326). This study has revealed that approximately 92% of the postgraduate students in the project management program are in full-time employment, and another 5% are in part-time employment – the ‘earner-learner’ (Stuparich, 2001). Distance education can capitalise on this opportunity to utilise the students’ workplace context to situate their learning in real-world activities and problems, and to create learning activities that can be sustained over longer periods of time to ensure deep learning occurs.

However, it is not only the workplace context of learning that is important. The actual workplace environment – the physical, cultural and social conditions and the

‘particular situation in which a practitioner is required to operate’ (Cheetham & Chivers, 1998, p. 273) – should be created or simulated wherever possible as this adds an important layer to the contextualisation of learning. As this study is focused on the needs of postgraduate students, the learning environment must also incorporate andragogical principles in that mature adults are self-directed and autonomous, they learn best through experiential methods, they are conscious of their own learning needs, and they want to apply their learning immediately (Knowles 1980, cited in Cheetham & Chivers, 2001).

5.7.2 Sub-principle D1

Sub-principle D1 provides guidelines to assist in facilitating situated learning across the organisational context:

Organisational policies recognise students’ workplace constraints and foster a work/study/life balance.

For postgraduate students in full-time employment, the workplace is both an opportunity and a constraint. It provides a rich environment in which to apply theoretical principles and to put learning into practice (Gosling, 2000; Smith, 2003; Tynjälä & Häkkinen, 2005), but it is also a source of disturbance due to conflicting demands on time. The University must acknowledge the need for learning to be situated in the workplace (Lave & Wenger, 1991), recognise the conflicts between workplace and study commitments, and provide adequate support to students and employers to minimise the effects of those conflicts. To ensure that these outcomes are achieved, the nominal group has suggested the following guidelines:

- *Provide a flexible learning environment to accommodate student workplace commitments*
- *Provide adequate support to address conflicts between study and workplace commitments*

- *Establish a relationship with employer organisations to foster work/study/life balance.*

5.7.2.1 Provide a flexible learning environment to accommodate student workplace commitments.

Organisational policies and practices for distance education must be learner-centred (Bonk & Cunningham, 1998), supportive, adequately resourced and consistent so that the educational focus is shifted from the teacher's expectations to the individual student's needs (Carter & Palermo, 2000). Learning requirements must consider the students' changing circumstances (Gibson, 1998), and the flexibility that is essential for students to overcome the barriers that they face in undertaking and completing their studies. Inflexible policy structures for semester start and finish, assignment submission, examinations, and adding/dropping courses are incompatible with unpredictable workplace commitments. The efficiencies that come from structured administrative systems must be partially offset by the need to provide the flexibility, the value of which the University acknowledges in its marketing, but finds difficult to implement at a more practical level.

5.7.2.2 Provide adequate support to address conflicts between study and workplace commitments

For many students, postgraduate study creates high levels of anxiety (Gibson, 1998), and these are exacerbated by the choice of distance education as the mode of study. Students see themselves as isolated (Lake, 1999) with little opportunity to seek assistance at short notice when unexpected situations arise, and lacking learning support in the early phases of their studies when so many unknowns exist (Bolam & Dodgson, 2003). Until they develop more advanced study skills (Smith & Smith, 2006), they are unsure of the likely outcomes of any approach for support or understanding. As indicated through the students' comments, this study reveals the extent to which workplace commitments create conflicts with study schedules and assessment requirements, with over 70% of respondents to the survey indicating that they have experienced conflicts between work and study commitments.

'As a senior PM within an Oil & Gas and minerals/mining Engineering company travel at short notice is often required' (Student).

'If it is about launching new products, when we are close to the launch period, we practically worked long hours and hence studies are really affected. Worst when we need to hand out projects and have no time to even work on them' (Student).

'I am on full-time employment with the Belgian Development Cooperation Agency. My job involves a lot of travelling (sometimes to countries with no e-mail facilities) and this has affected my studies' (Student).

'I work in demanding professional environments where more than the average 40 hr week is expected. Often I average in excess of 55 hrs per week at work. Therefore, I need to manage my time effectively to maintain my studies' (Student).

'As my work involves supporting contingency operations, it is not what you would call "9 to 5", but rather I work between 60 and 90 hours per week, 7 days per week with an occasional day off' (Student).

To offer true flexibility, USQ must recognise that students have many professional and personal commitments that restrict the way in which they can undertake their studies. Apart from the time limitations, the educational setting in which postgraduate project management students operate may include significant barriers to their access to learning resources, equipment, information and communications technology:

'Work demands and responsibilities had significant effect on my studies. At times I used to find myself on work assignment in remote areas where access to the web is impossible, and this therefore did not allow me access lecture materials, search course assignment materials in the web' (Student).

'Living environment in Sudan where I'm working. Weather is hostile, averaging 45 degrees most of the year with regular sandstorms. Once a sandstorm comes all business grinds to a halt! Security issues, there are periods of heightened security when movement is quite restricted' (Student).

There are few efforts made by the University to build relationships with employers in order to understand the workplace environment of postgraduate students. It is taken for granted that distance education students will be able to cope with the demands in achieving a work/study/life balance, and little consideration is given to students' individual circumstances. Some students in both the private and public sector are fully supported and funded by employers with leave granted for study time, exams, and for situations that require attendance on campus. Other students are not in 'study friendly' circumstances and some employers may even be hostile to the concept of employees undertaking higher studies. Many students are self-employed with additional concerns related to generating income, supervision of staff and the general demands of managing a business.

'During my studies I opened up a small business. Time and the long opening hours of my business were restrictive on my ability to dedicate long hours to the course' (Student).

5.7.2.3 Establish a relationship with employer organisations to foster work/study/life balance

Project management students' workplace employers are not recognised explicitly as stakeholders in the development of a pedagogical framework for USQ education programs. They are seen as potential employers of undergraduate students, but existing employers of postgraduate students are not sought out by the University. Their expectations are unknown, their requirements are not explicitly considered in the development of curriculum and assessment, and desirable attributes for exiting students are not identified and mapped to postgraduate programs and courses. Workplace employers and universities have a joint responsibility to ensure that students' transition to the workplace is smooth and that their learning at work is

characterised by critical reflection (Crebert, 2002). The University should engage in ‘strategic relationships, partnerships and collaboration with employers and other organisations in order to develop and improve educational opportunities’ (Council for Adult and Experiential Learning, 2000, p. 13). Employers should be encouraged and assisted to provide a study-friendly working environment, and the University should create a workplace-friendly learning environment.

5.7.3 Sub-principle D2

Sub-principle D2 provides guidelines to assist in facilitating situated learning through the pedagogical framework:

Teaching strategies and practices situate learning in authentic environments.

Like most universities, USQ has developed workplace-focused employability skills as graduate attributes at undergraduate level, but there is little consideration of the workplace and its implications for postgraduate studies. To achieve better workplace-focused learning outcomes, the nominal group has suggested the following guidelines:

- *Use the workplace as an environment for learning and assessment*
- *Recognise and build on students’ workplace-related learning and skills.*

5.7.3.1 Use the workplace as an environment for learning and assessment

Workplace-focused learning has a social dimension that emphasises authenticity and learning ‘should take place in authentic environments or conditions and in ways similar to real life situations’ (Tynjälä & Häkkinen, 2005, p. 7), and can take different forms such as:

- Incidental and informal learning that takes place as a side effect of work,
- Intentional but informal learning activities related to work (e.g. mentoring), and

- Formal on-the-job and off-the-job training (Tynjälä & Häkkinen, 2005).

The workplace must be ‘suitably enriched’ (Harvey & Slaughter, n.d., cited in Johnson & Thomas, 2004, p. 303) to allow students to engage with the learning and knowledge processes and to be able to transfer knowledge and skills from one environment to the other – studies to workplace and vice versa. Research supports the view that situated learning leads to increased student motivation, enhanced learning, improvement of problem solving skills and the ability to transfer those skills to new situations (Ht Berge, Ramaekers, & Pilot, 2004). Effectiveness in professional education is closely related to principles of experiential learning and reflection (Kolb, 1984) and provides an opportunity for students to apply concepts and skills from their workplace to assessment activities (Johnson & Thomas, 2004). A recent study of postgraduate engineering education in the United Kingdom identified the need for growth of ‘work related or work ready skills, increased opportunities for work experience, a greater variety in the pace and places for learning – including workplace learning ‘ (New Engineering, 2007, p. 12). To address industry concerns that university-based learning is divorced from the workplace learning, learning tasks should be sufficiently workplace-focused in order to:

- Encourage students to seek access to experienced colleagues as an extension of the learning community,
- Use prior workplace experience as a foundation upon which students interpret and construct new knowledge and learning,
- Provide a learning environment within which students can reflect on the similarities and differences between theory and practice,
- Create a practice environment in which students can immediately apply new tools in the form of knowledge and skills, and
- Create an environment from which students can access rich experiences for learning and assessment activities (Nixon, Smith, Stafford, & Camm, 2006).

Most universities have defined graduate attributes or generic capabilities for their undergraduates (Ballantyne, 2001; Bowden et al., 2007; Crebert, 2002; Oliver et al.,

2000; University of Southern Queensland, 2001), but few, if any, have defined desirable exiting attributes for postgraduate students. An Australian Technology Network universities' report on generic capabilities acknowledges that tertiary students may include 'professionals undertaking upgrading qualifications, or adults with limited experience of success in earlier education who are exercising a second chance at the personal and economic benefits higher education affords' (Bowden et al., 2007). However, the case studies examined provide little guidance as to which attributes would apply to postgraduate students. The Business, Industry and Higher Education Collaboration Council suggests that employability skill development benefits from 'work experiences as a structured part of the curriculum' (Precision Consultancy, 2007, p. 1) but few courses in the project management program at USQ utilise the workplace as a learning or assessment context as reflected in students' comments in the survey:

'Study book and some assignments are daunting and useless; don't reflect current industry best practices' (Student).

'Many subjects did not appear to encourage information relating to one's workplace - particularly in the assignments' (Student).

Students are not provided with an opportunity to explore their workplace as a context for learning nor to reflect on their current practices relative to the suggested theory embedded in the curriculum. As one student indicated in the survey:

'I want advice from someone who worked in the industry not spend (sic) their whole life just reading about it. Some of the advice we are given is an absolute joke. It is so easy to tell those who worked in the industry from those who didn't. Experience shows' (Student).

Postgraduate distance education does not lend itself readily to 'work-integrated learning' (Radcliffe, 2002), however, postgraduate students who are employed in the workforce have access to an extended professional community and their studies should 'integrate the learning process as far as possible into the work role and its

tasks, allowing experience to be drawn upon, and knowledge and practice gained to be applied in future work' (Bradley & Oliver, 2002, p. 6). A postgraduate curriculum should incorporate:

- a flexible model that places importance on activity,
- collaboration and the development of a personal portfolio,
- opportunities to explore topics of interest in more depth,
- formative assessment with rapid feedback, and
- workplace-based summative assessment to 'ensure that the process of learning can be integrated with working practices and to allow opportunities for workplace application' (Bradley & Oliver, 2002, p. 8).

5.7.3.2 Recognise and build on students' workplace-related learning and skills

There is little recognition of the level of knowledge and skills that students bring to their studies, and how these impact on their motivation for undertaking postgraduate study and their learning objectives. In few instances is there any attempt to identify what level of individual maturity students have reached in their professional development (Crawford, 2000a, 2002; Toney, 2002), the context of their professional workplace and its level of maturity (Cooke-Davies, 2002), and to address any defined gap in knowledge and skills. In most professionally-oriented postgraduate programs, students are regarded as a clean slate with similar needs, abilities and interests, and all aspects of their studies are prescribed on a one-size-fits-all approach. There is little flexibility in the curriculum to explore, the learning tasks to undertake, the activities to explore, the texts to read, the assessment to complete, nor the learning objectives to achieve. The learning process should be aligned with a view to aid the student moving from novice to expert (Riel & Polin, 2001; Taylor, 1994), building on the existing platform of their capabilities.

5.7.4 Sub-principle D3

Sub-principle D3 provides guidelines to assist in facilitating situated learning within the educational setting:

Learning tasks involve real-life activities in industry and workplace settings.

The workplace should form an integral component of the learning setting, and learning activities and tasks should relate directly to the student's workplace environment. To ensure that these outcomes are achieved, the nominal group has suggested the following guidelines:

- *Engage industry and workplace in learning tasks and activities*
- *Provide acknowledgement and support for employers to create a study-friendly workplace.*

5.7.4.1 Engage industry and workplace in learning tasks and activities

Although industry representatives are invited to participate in program review teams to provide an industry perspective, this happens in an unstructured manner, with participants chosen by academics at a personal level, rather than through professional bodies for an objective viewpoint. Industry perspectives are essential to define the learning outcomes, curriculum and learning content, to select appropriate case studies, identify appropriate learning tasks, and define relevant assessment models and tasks (Field, 2001). Intensive workshops that form part of the 'on-campus' teaching model for project management courses involve industry practitioners as guest speakers or case study facilitators, but the benefits of their involvement do not flow through to distance education students in the project management program.

5.7.4.2 Provide acknowledgement and support for employers to create a study-friendly workplace

The University does not establish relationships with employers of postgraduate students to jointly consider the demands of part-time study, expectations of the University on students, and ways in which places of employment can assist students to achieve success in their studies. There is little knowledge and research into the ways by which employers sponsor and formally support students in postgraduate studies. As one student comments:

'My workplace is not able to support my learning as project management is not used. This has made it difficult to apply the principles but the assistance from other students helps to give an overall picture of the theory in action'
(Student).

While approximately 60% of postgraduate project management students are self-funded, approximately 27% are fully funded from other sources and about 12% are partially funded from other sources. Although this can alleviate some of the financial burden of study, it also creates expectations on the students from those who are funding their studies, creating other sources of conflict. Overall, the circumstances, objectives, and needs and expectations of employers are poorly understood, making it even more difficult to situate learning in meaningful and authentic contexts.

5.8 Key Principle E

This section discusses the key principle that promotes learning support and the sub-principles that provide guidelines for operationalisation of the key principle. Within the DELPHE framework, Key Principle E provides guidelines to facilitate learning support across all levels of the learning environment:

Communities of learners encourage students to collaboratively construct and develop learning resources that have personal meaning and value, and which support individual learning strategies.

The three guiding sub-principles that support Key Principle E are discussed below and comprise:

- **Sub-principle E1** provides guidelines for learning support policies within the organisational context:

University policies and regulations provide support for development of innovative learning resources that meet the diverse needs of the learning community.

- **Sub-principle E2** provides guidelines for learning support practices within the pedagogical framework:

Teaching and learning strategies and practices encourage students to collaboratively develop multi-modal learning resources that meet individual learners' needs and support the learning objectives of the program.

- **Sub-principle E3** provides guidelines for learning support within the educational setting:

Learning tasks include activities for students to develop individual learning resources that add value to the learning setting.

5.8.1 Key Principle E – Learning support

Learning support for postgraduate students is provided in many forms by academic and other sectors of the University community as discussed in Key Principle A, and may be grouped as cognitive (supporting and developing learning), affective (creating an environment that provides emotional support) and systemic (primarily administrative) (Tait, 1993). In the context of the DELPHE framework, aspects of cognitive, affective and systemic support have been discussed in Key Principles A to D, and the focus in Key Principle E is primarily on cognitive support in the form of learning resources.

Discussion on the previous principles has highlighted the importance of collaborative, student-centered and situated learning that takes place within a supportive learning community. Within this environment, members of the community accept increasingly higher levels of responsibility for their learning as well as the resources that are required to support and facilitate that learning. A constructivist learning environment is not a passive one where learning materials are created by others and consumed by learners (Downes, 1998) – members actively construct their learning resources collaboratively to satisfy the joint, and individual, needs of the community. Although there are occasions where students can derive

value from pre-packaged learning materials as are commonly provided by the University, at times there will be a need for experiential learning which will require postgraduate students to construct their own learning resources individually or collaboratively, and which allows students to reflect on their learning processes and to generate implicit knowledge (Kolb 1984, cited in Burge, 1989).

There are numerous drivers that must be considered for future development of project management learning resources. Modularisation of courses and programs require smaller ‘chunks’ of learning materials to support learning modules (Downes, 1998). Instructional design theories suggest that the focus should be on customisation rather than standardisation of learning resources (Beldarrain, 2006). An increasing focus on the personalisation of learning, a wider availability of materials in the public domain, an increasing rate of obsolescence of materials and improved access to electronic resources are all changing the approach to the development of learning resources. Materials are becoming more flexible to accommodate students with different approaches to study such as ‘systematic waders’ (early learners who explore materials in a structured manner to achieve deep learning), ‘speedy-focusers’ (more experienced learners who take a more strategic approach) and ‘global dippers’ (who study in a more random and unstructured manner seeking information from a broad range of sources) (Carnwell, 2000, p. 123).

Educational technologies have not only brought about significant changes to learning environments but also the form in which learning resources can now be provided. Project management course structures can now be open-ended in nature and divorced from the sequential nature of traditional print-based learning resources – the ‘table of contents approach’ (Postle & Ellerton, 1999). Content-heavy courses and print-based materials are not appropriate for virtual learning environments where communication and dialogue are seen as critical dimensions of the postgraduate learning activities (Sturman & Postle, 2003).

Design and development of learning resources for postgraduate distance education require the input of numerous staff with expertise in the discipline area, in the pedagogy of mature-aged learners, and in the design and production processes.

Historically, a scarcity of financial and human resources has limited the carrying out of postgraduate learner needs analyses, and instructional material often remains static for extended periods.

In open and flexible learning, instructional materials have ‘the capacity to cater for individual needs while enabling collaborative forms of learning’ (McLoughlin, 1999, n.p.). The University should provide sufficient financial resources to achieve the necessary standards for learning resources, and to align philosophy, policies and procedures with the stated objectives of flexibility and learner-centredness. For this to happen, a better understanding of the students’ circumstances is required, so that instructional materials are ‘not only flexible, but also supportive of diversity and capable of accommodating a wide range of learning styles’ (McLoughlin, 1999, pp. n.p.).

Although there is limited research on the utilisation by students of printed distance education materials, one study found indications that deep learners ‘used more elements of the study guide and read more widely and had more strategies for making sense of their learning materials, than did surface learners’ (Smith & Smith, 2006, p. 36). Given the diversity of students in the postgraduate distance education programs, the concept of learning styles has a significant influence on the nature and scope of learning resources to be developed for any specific course or program, and different learners need to interact in different ways with material ‘in order to maximise their learning’ (Ashby, Eason, & Pomfrett, 1999, p. 8).

5.8.2 Sub-principle E1

Sub-principle E1 provides guidelines for facilitating learner support within the organisational context:

University policies and regulations provide support for development of innovative learning resources that meet the diverse needs of the learning community.

Learning resources have become comprehensive and sophisticated to the point that students can now be overwhelmed, and to address this concern, the nominal group has suggested the following guideline:

- *Provide financial resources to develop learning resources with a focus on quality rather than quantity.*

5.8.2.1 Provide financial resources to develop learning resources with a focus on quality rather than quantity

The University's capability for development of learning resources improved significantly following establishment of the Distance Education Centre (DEC) in the late 1980s (Reid, 2005; University of Southern Queensland, 2008c). USQ learning resources have evolved over the four generations of distance education (Taylor, 2001a) to the current extensive packages of print and digital multimedia, and are now supported by a well-developed LMS.

Academic staff no longer work in teams with instructional designers and the quality of learning materials is now the responsibility of individual academic staff members as part of a course team. Students' comments in the survey indicate concerns about the consistency and overall quality of the learning resources with which they come into contact.

'Some books, especially those that have just been recently revised have been poorly proofread and oftentimes sections refer to tables or charts that are non-existent' (Student).

'Some books are so bad - I would never buy something that poorly written and full of mistakes like that accounting book written by people from USQ. Shame, shame, shame to put something that bad in print and force students to buy it' (Student).

'Some of the text books provided by USQ is (sic) old and should be updated. Prints are old and very difficult to read plus some are not clear. With all the

modern technology and printers, one would hope USQ would update their modules' (Student).

'The course materials were variable between subjects. With some appearing world class and others very poor e.g. selected readings that were photocopies of photocopies that were all but unreadable' (Student).

5.8.3 Sub-principle E2

Sub-principle E2 provides guidelines for facilitating learning support through the pedagogical framework:

Teaching and learning strategies and practices encourage students to collaboratively develop multi-modal learning resources that meet individual learners' needs and support the learning objectives of the program.

An industrialised model of course development 'may be alien to project participants coming from an academic background' (Bradley & Oliver, 2002, p. 15), and to ensure that appropriate learning resources are developed, the nominal group has suggested the following guidelines:

- *Provide access to flexible, current, relevant and varied learning resources to suit students' context*
- *Align learning resources with learning tasks and activities*
- *Learning resources should reflect student progression and learning outcomes at course and program level.*

5.8.3.1 Provide access to flexible, current, relevant and varied learning resources to suit students' context

Learning resources for postgraduate distance education must be sufficiently comprehensive but flexible, as the instructor has 'limited opportunity to observe, challenge, motivate and provide corrective feedback' (Wright, 2007, p. 2). They

must be relevant, concise, cognisant of students' circumstances, and consistent with learning objectives and nominated study workloads, but this is not how students currently see them.

'For myself, study materials especially for project management are very limited. Even local public library does not have relevant books that can help in my study i.e., project management. Some of the books are outdated' (Student).

'Availability of education books is not the same in all regions. My experience is that most of the books referred to for research are not available in my country and this makes studying very difficult, especially when required to provide at a certain number of reference material' (Student).

'Also, where I currently live, I don't have access to local university libraries which would have provided me with the necessary recommended text books. The city libraries do not have postgraduate level text books in English language' (Student).

Individual courses (subjects) cater for students from many different academic programs because of the modularised nature of postgraduate programs, and students may be at the beginning of their studies, or in the final stages. The learning resources issues to be considered include:

- relevance to the learning objectives, the designated learning tasks, and the stage of studies,
- uniformity in their nature and design across programs and courses relevant to the discipline and learning objectives,
- consistency in their standard and quality,
- minimisation of learning resources such that they are sufficient to meet the learning objectives and to support the University's expectations of students at a postgraduate level of study, and
- flexibility to suit individual students' learning styles and learning objectives.

Courses that use predominantly text-based learning materials can overwhelm students and discriminate against students whose native language is not English or those who are not 'read-write' inclined (Fleming, 2001) in their learning styles, as reflected in students' comments.

'Unfortunately distance education relies too heavily on reading as the only form of learning' (Student).

'Some courses had so much materials it was impossible to cover them all under the circumstances' (Student).

'The law unit requires ridiculous levels of reading, up to 9 chapters a week...crazy' (Student).

Traditional print-based materials have been supplemented by, or replaced with, digital resources incorporating multimedia including audio, video, PowerPoint, and websites, and such approaches have enhanced the flexibility and variety of learning resources and facilitated the individual nature of learning (Birch, 2006; Nooriafshar & Todhunter, 2004; Sankey & St Hill, 2005). However, with such sophistication come other challenges. Many students do not have adequate access to broadband internet to be able to realistically download data-intensive materials, and the actual value to the students for learning must be balanced against the cost of production and the cost of delivery.

'I work in education and know it's expensive to produce written copies of readings etc, but a CD-ROM of reading would have made life so much easier. The last course I studied requiring downloading material ended me wanting to continue studying (along with other things), it just all became too difficult' (Student).

As in most dual-mode universities, the experience and expertise of academics in writing and developing postgraduate distance learning materials varies widely (Bradley & Oliver, 2002). Most academics are appointed because of their expertise in their subject domain and struggle to write pedagogically-sound distance learning

materials as opposed to academic papers or text books, as reflected in students' comments.

'Some USQ Study Books, which are meant to be our guide, are just copied paragraphs out of books and of no real benefit' (Student).

'There should be a more guided approach to study, as distance education can be very boring and difficult. It should give an opportunity for self-pace and reference to carefully selected few sources. Extensive research is not achievable for full time employees' (Student).

Academics without experience in the development of learning resources struggle to understand how to capture the benefits of educational technologies. Many tend towards excessive text-based resources ('shovel-ware') or course materials translated in toto with 'little knowledge or consideration of necessary changes to accommodate materials to new delivery technologies' (Collins, 2000, n.p.).

5.8.3.2 Align learning resources with learning tasks and activities

The nature of learning tasks and activities has been discussed in Key Principle B and their relationship to the workplace has been discussed in Key Principle D. Learning tasks should align closely with learning objectives, and learning and assessment activities should take place in an authentic environment. The learning resources should align with and support the tasks and activities to ensure that students have ready access to critical information to complete the tasks set for them, but are not overwhelmed by unnecessary or irrelevant materials.

'This semester I have had to drop the core subject I was studying as work commitments are my priority and there was not adequate time to study the enormous amount of material' (Student).

The design of learning resources should reflect the following guidelines (Smith & Smith, 2006):

- Reduce the content to make it easier for students to assimilate it;
- Keep readings up to date;
- Select materials that are easier to read and understand and avoid academic mumbo-jumbo;
- Give details of relevant websites; and
- Integrate the study guide and textbook.

5.8.3.3 Learning resources should reflect student progression and learning outcomes at course and program level

Project management learning should be seen as taking place in a holistic sense across the program, rather than across isolated and disjointed courses. Postgraduate study programs have been modularised into coursework, often with rigid boundaries and within well-defined disciplines, and integration of learning across disciplinary boundaries is often discouraged because of financial and administrative issues, not pedagogical issues. Learning resources tend to align with those artificial boundaries rather than form part of a larger vision represented by the program and the student's learning objectives. Learning materials tend to be developed on a 'delivery' model where the designated knowledge is packaged into study books and selected readings, whereas they should be more fluid and flexible, with scope for students to identify and construct their own portfolio of resources that are relevant to their learning context. The frustration of students with the learning resources is indicated in their comments.

'USQ lecturers could be more selective about what to include in the readings. Some was of low relevance, or out of date, or appealed only to the lecturer' (Student).

'The amount of reading vs. practical has actually been a down point for me. The information I was hoping to get included how to properly implement the knowledge, and I feel I can't get that from reading a manual, text book or article' (Student).

5.8.4 Sub-principle E3

Sub-principle E3 provides guidelines for providing learning support within the educational setting:

Learning tasks include activities for students to develop individual learning resources that add value to the learning setting.

Data from the student survey indicated significant levels of dissatisfaction with the learning resources, and to address these concerns, the nominal group has suggested the following guidelines:

- *Encourage students to define and develop their own learning resource needs*
- *Relate learning resources to the workplace.*

5.8.4.1 Encourage students to define and develop their own learning resource needs

In early print-based generations of distance education (Taylor, 2001a), postgraduate students were in most cases geographically isolated and unable to access resources appropriate for Master's level study. Project management programs have required a high level of reading by students regardless of their personal learning style, language skills, background and circumstances, and this study indicates that many students experience "information overload" (Alexander, 2001).

With almost unlimited access to a wide range of electronic resources through the USQ library portal and the internet, students now have the opportunity to define their own learning activities and to locate relevant learning resources. Multiple texts are available through library databases, and high-quality journal articles become available almost daily. Increasingly, the rationale for academic facilitators to limit study resources to defined texts becomes difficult to justify. In keeping with the philosophy of flexibility and student-centredness defined by the University, learning

resources should be equally as flexible and reflect the individual focus of studies and students' learning objectives.

5.8.4.2 Relate learning resources to the workplace

As discussed in Key Principle D, learning tasks and activities should have an authentic context to ensure practical outcomes and the required competencies.

'When I enrolled I expected the MBA course to be some kind of management education supporting me in my day to day business. From my perspective, the studies still focus very much on the academic approach and less on practical management tactics. In my professional life I'm asked for practical solutions, not for theoretical background' (Student).

'Some of the tools and techniques recommended by the books are not being used in practical (sic) (particularly in Asia countries)' (Student).

As most postgraduate students are in full-time or part-time employment during their studies, opportunities exist for students to utilise knowledge and information from workplace and industry organisations to contextualise their studies. Workplace projects can replace generic case studies, and documents used for management of workplace projects can replace generic exemplars.

5.9 Key Principle F

This section discusses the key principle that addresses learning outcomes related to assessment, and the sub-principles that provide guidelines for operationalisation of the key principle. Within the DELPHE framework, Key Principle F provides guidelines on learning outcomes across the learning environment:

Student learning activities and outcomes are enhanced through negotiable assessment tasks that are developmental and reflective in nature.

The three guiding sub-principles that support Key Principle E are discussed below and comprise:

- **Sub-principle F1** provides guidelines for learning outcome policies within the organisational context:

University policies and regulations provide support for achievement of learning outcomes at program level through flexible, uniform and consistent assessment practices.

- **Sub-principle F2** provides guidelines for assessment practices within the pedagogical framework:

Teaching and learning strategies and practices allow students to negotiate activities for self-assessment, peer assessment and independent assessment to confirm progressive achievement of program objectives.

- **Sub-principle F3** provides guidelines for assessment tasks and activities within the educational setting:

Learning tasks include activities that provide formative evaluation of student progress, and summative evaluation of achievement of learning objectives at program level.

5.9.1 Key Principle F – Learning outcomes

Assessment has been aptly described as ‘the powerhouse of learning...the engine that drives learning’ (Cowan 1999, cited in Juwah, 2003, p. 40), but within many individual courses within the project management program, it lacks the necessary focus on learning objectives and outcomes (Biggs, 2005). The challenge for bringing about essential change to assessment practices is to create a balanced system and achieve constructive alignment (Biggs, 2005) between teaching methods and intended outcomes.

Although there are existing competency frameworks for project managers (Australian Institute of Project Management, 1996; Birkhead et al., 2000; Crawford, 2000a; Frame, 1999; Huemann, 2000; Morris & Pannenbacker, 1998), many are defined in terms of vocational competencies (Australian Institute of Project Management, 1996) and do not relate to the higher-order learning (Herrington & Oliver, 1999) that is associated with postgraduate studies, and which lie beyond the graduate attributes that are commonly defined for students exiting from undergraduate programs (Barrie, 2005a; Bowden et al., 2007). Graduate attributes have evolved over recent years from a prescriptive focus on a wide range of specific skill sets to a smaller and more generic set of performance attributes that are aspirational in nature (Bowden et al., 2007), but few attempt to differentiate between the desirable attributes of undergraduate students and those of postgraduate students. A study by the University of Technology Sydney (UTS) into the requirements for career success following graduation from university found that ‘profession-specific knowledge is not sufficient’ and that emotional intelligence, cognitive capabilities and generic skills were essential success factors (Vescio, 2005, p. iv). The findings indicate that an appropriate combination of these factors is required and no one factor is an indicator of likely career success. Again, however, no research was undertaken as part of the UTS study to understand the specific attributes relevant to postgraduate students.

Attributes may be expressed in four main categories relating to the body of knowledge of the discipline (in this case project management), critical understanding, dimensions of citizenship and leadership, and a capacity for employment and personal flexibility (Nunan 1999, cited in Bowden et al., 2000). Programs attempting to foster development of these attributes must be contextualised in the occupation or profession in which students are intending to work reinforcing the importance of authentic learning tasks situated within project management communities of practice (Wheelahan, 2003).

In the context of this study into postgraduate professional education, the higher-order learning discussed above may be defined as the ‘authentic construction of meaning and knowledge’, learning that requires ‘disciplined inquiry’ (Ht Berge et al., 2004, p.

3) using prior knowledge and an in-depth understanding of the problem gained through collaborative learning processes, and which has professional and personal value. It should include learning to deal with complex, ill-structured and uncertain situations, representing the authentic problems that occur in professional project management practice (Ht Berge et al., 2004). Learning is achieved when ‘a permanent change in thinking, attitude, or behaviour is experienced’ (Jones & Paolucci, 1999, p. 3) and the overarching objective of the instructional system should be to facilitate this process.

A national study of Australian university students (Scott, 2006) identified a framework for achieving quality in assessment at tertiary level, including recognition that assessment is a key driver for student learning, it must add value for early career success, it should focus on key capabilities, provide prompt and constructive feedback, and that it must be moderated to ensure transparency and consistency (Scott, 2006). This study suggests that, in contrast to the recommended focus above, assessment practices in the project management program are driven in many instances by administrative convenience with arbitrarily-imposed penalties imposed on postgraduate students where other commitments prevent them from meeting requirements. University policies relating to assignments may discourage any genuine flexibility in postgraduate assessment practices.

“If students submit assignments after the due date without extenuating circumstances then a penalty of 5% of the assigned mark may apply for each working day late up to a maximum of ten working days at which time a mark of zero can be recorded for that assignment.” (University of Southern Queensland, 2008b, n.p.)

As educational technologies play an increasing role in the creation of distance learning environments, facilities such as electronic submission of assessment items allow new paradigms of assessment practices with both administrative and pedagogical benefits. However, although there are administrative benefits for the University in this transition, there are few academic staff who willingly accept the added workload in their role of digital pioneers.

5.9.2 Sub-principle F1

Sub-principle F1 provides guidelines for learning outcome policies within the organisational context:

University policies and regulations provide support for achievement of learning outcomes at program level through flexible, uniform and consistent assessment practices.

To ensure that consistent and effective learning outcomes are achieved through assessment practices, the nominal group has suggested the following guidelines:

- *Establish consistent policies on assessment requirements across courses and programs*
- *Provide flexibility to accommodate study/work/life conflicts.*

5.9.2.1 Establish consistent policies on assessment requirements across courses and programs

A review of assessment in higher education by the Centre for the Study for Higher Education (CSHE) revealed that there is little consideration of ‘postgraduate’ as a category of assessment requiring specific consideration (James, McInnis, & Devlin, 2002). Staff responsible for the design of individual postgraduate courses have traditionally enjoyed academic freedom in the selection, design and format of assessment for those courses. Although this has contributed to innovative assessment practices, it has also led to a fragmented and inconsistent approach to assessment across programs. Assessment practices often discriminate against distance education students who have greater constraints than those of on-campus students. For example, distance education students are expected in many cases to undertake extensive travel to sit for examinations that constitute a large proportion of the marks for overall assessment. Students are expected to demonstrate their mastery of course objectives within a short time frame, under difficult conditions and to incur considerable financial costs in the process.

As course leadership frequently rotates across faculty members to suit staff availability and administrative requirements, assessment can change from year to year and from semester to semester, and this has led to situations of widely-varying summative assessments within and between courses. Based on a review of assessment practices in 2006, the University has addressed some of the issues indicated above by imposing a common policy on assessment for all staff (University of Southern Queensland, 2007b), including the common requirement that only a single hurdle can be imposed for each course. Although this has addressed some of the conceptual problems that existed previously, it does not address the problems encountered by students of a fragmented approach to assessment when moving through a program, nor does it address the shortcomings related to flexibility which is a stated philosophy of the University.

The University should ensure that consistent standards are set across courses, programs and faculties, that interesting and challenging assessment requirements can be negotiated by students, that criterion-referenced assessment is relevant to real-world professional practices, that assessment marking is done consistently and fairly, that clear guidelines, guidance and exemplars are provided on how to undertake the assessment, and that appropriate and timely developmental feedback is provided (Scott, 2006).

5.9.2.2 Provide flexibility to accommodate study/work/life conflicts

In the CSHE report mentioned above, many students indicated ‘a strong preference for choice in the nature, weighting and timing of assessment tasks’ and negotiated assessment is seen as a ‘logical extension of the trend towards offering students more flexible ways of studying and more choice in study options’ (James et al., 2002, p. 10). The data collected for this study suggest that there are many instances where assessment requirements lack the level of flexibility expected by postgraduate students.

‘The examination centre is located in another country Ghana-Accra. I have to spend airfare to travel each time I am going for my exams and this is an additional cost not only for air fare but hotel room cost plus food’ (Student).

‘I work offshore in the oil industry in a service company and have found it difficult to no (sic) if I will be onshore in Beijing to sit the exams and hence I often had very short notice that I would need to sit the exam on the oil platform and sometimes this was difficult to organise with USQ’ (Student).

‘Most of the times, the exams are on office house (sic – hours). I faced lot of difficulties at the time of taking leave for my exams. Since I am still under one year probation period in my new job, I had to go no pay leave for some exams’ (Student).

Examples have been provided of academic facilitators applying sanctions for what are minor infringements and these have been justified as a supposed reflection of the consequences of failure in the real world.

‘...in other cases the student is penalise (sic) for late submission (49 minutes)’ (Student).

5.9.3 Sub-principle F2

Sub-principle F2 provides guidelines for assessment practices within the pedagogical framework:

Teaching and learning strategies and practices allow students to negotiate activities for self-assessment, peer assessment and independent assessment to confirm progressive achievement of program objectives.

To align USQ postgraduate assessment practices with recognised best practice, the nominal group has suggested the following guidelines:

- *Align assessment with course and program objectives to foster higher-order learning;*
- *Set open-ended assessment based on real-life cases from the workplace;*
- *Set realistic assessment workloads; and*
- *Set consistent, relevant and flexible assessment across courses and programs.*

5.9.3.1 Align assessment with course and program objectives to foster higher-order learning

Many of the conceptual issues related to postgraduate assessment and higher-order learning have been discussed above in Key Principle F. Good examples of pedagogical practice for assessment in higher education are readily available (Biggs, 2005; Centre for the Study of Higher Education, 2002c; James et al., 2002; Oliver, 2000) and it is beyond the scope of this study to examine this topic in detail. One aspect of concern related to assessment in the postgraduate programs is the large class sizes, where enrolments can be up to four hundred in the project management discipline and up to a thousand in elective courses taken in the MBA program. Assessment of large student cohorts presents five distinct challenges which comprise avoiding shallow learning, provision of quality feedback, fairly assessing a wide range of students, managing the volume of marking in a timely fashion, and avoiding plagiarism (James et al., 2002).

Staff workload allocations encourage course leaders to utilise automated and standardised assessment models such as quizzes and examinations that do not encourage deep learning (Juwah, 2003), fail to provide individualised feedback, and are unfair on many sub-groups within the cohort because assessment modes are at odds with learning styles and student attributes.

5.9.3.2 Set open-ended assessment based on real-life cases from the workplace

Many aspects of workplace-related learning tasks and activities have been discussed previously under Key Principle D. Assessment practices provide little or no

opportunity for postgraduate students to demonstrate their mastery of the curriculum content, nor skills that they may have developed. Assessment practices can quickly deteriorate from valid evaluation of learning outcomes to ‘mechanistic, technical processes’ (Angelo, 1999, p. 5) as monitoring devices that are dropped into academic programs. Project management practice is about problem-solving in high-risk and dynamic environments and assessment tasks should reflect that environment incorporating ill-defined and open-ended problems requiring a collaborative multi-disciplinary approach to assist in developing the ‘competencies that are needed to deal with the problems and issues that arise in professional...practice’ (Ht Berge et al., 2004, p. 1). They should be derived directly from an authentic context, have sufficient size to be interesting and challenging, provide opportunities for freedom of choice, require interaction with others, and lead to some tangible results (Ht Berge et al., 2004). Assessment activities not only evaluate learning outcomes, but are also an integral part of the learning process and ‘prepare learners for future learning’ (Juwah, 2003, p. 39), as reflected in students’ comments.

‘All Postgraduate course assessments should be assignment based as this reflects what we do in our jobs’ (Student).

Assignments are often standardised, providing limited opportunity for postgraduate students to apply the underlying principles of their learning to their workplace practices. The workplace should be one of the primary sites of learning and provides an opportunity for the practical application of knowledge and skills through action- or ‘problem-based projects’ (Nixon et al., 2006, p. 39). Studies of postgraduate education in management education have indicated that students place higher value on assessment activities and learning outcomes where they provide ‘an opportunity to apply the course material to real world problems’ (Monks & Walsh, 2001, p. 152). In a project environment, these problems are also reflected in group work and team work, which also raises challenges for simulation in a distance education mode of study.

'We should have had at least 1 opportunity to submit assignment in groups of 2 if applicable. Especially, courses like 8027 where we talk about teamwork and coordination' (Student).

'No group work or group discussions at all. No proper communication between students as they hardly come to uni' (Student).

'I wish that I felt more connected to other students who are also studying the same program. I realize that one has to make the effort to contact and stay in touch, but perhaps some form of collaboration/team work could be encouraged (as this is more like the real world work situation anyways) and this would allow further contact and closer contact (with team mates at least)' (Student).

'Personally I find the general lack of actual human contact during the learning experience frustrating' (Student).

Where carried out under appropriate conditions, group work can encourage 'peer learning and peer support' (University of Wollongong assessment policy 2002, cited in Centre for the Study of Higher Education, 2002a, p. 1). Collaborative study activities have been shown to directly enhance learning and to develop teamwork skills that are valued by employers (Centre for the Study of Higher Education, 2002a, p. 1), and can assist academic staff to utilise teaching resources and time more efficiently. Universities have traditionally been uncomfortable with evidence-based assessment where portfolios, learning logs, journals and diaries are used 'to encourage self reflection and as methods of assessing work-based learning' (Nixon et al., 2006, p. 39).

5.9.3.3 Set realistic assessment workloads

Assessment should be coordinated at program and course level to adjust the timing and quantum of assessment items according to the stage of learning, and to align the learning tasks and activities with the learning objectives. A lack of flexibility and coordination, and fragmentation of assessment across courses create inconsistent

workloads for students with competing demands on students' time at peak periods in the semester. If course development and assessment design are coordinated at program level, those peaks can be avoided through selection of appropriate assessment models, eliminating unnecessary assessment items and setting realistic time frames within which assignments can be submitted.

5.9.3.4 Set consistent, relevant and flexible assessment across courses and programs

McLoughlin and Luca (2000) suggest a move towards alternative assessment with greater flexibility where the objective is for students to undertake authentic and collaborative assessment in a realistic setting, 'show-casing student achievement through portfolios, multimedia projects, skills demonstrations and teamwork' (McLoughlin & Luca, 2000, p. 635).

'Although billed as a postgraduate course, I have found the assignment assessment oriented towards measuring compliance with the provided outlines (which were very detailed), rather than encouraging creative thought. A goodly portion of the marks seem to be allocated to format rather than content, making the assessment simpler no doubt but not really challenging participants to achieve at a postgraduate level' (Student).

5.9.4 Sub-principle F3

Sub-principle F3 provides guidelines for assessment tasks and activities within the educational setting:

Learning tasks include activities that provide formative evaluation of student progress, and summative evaluation of achievement of learning objectives at program level.

To ensure that students' activities are appropriately evaluated, the nominal group has suggested the following guideline:

- *Provide timely and relevant developmental feedback to students.*

5.9.4.1 Provide timely and relevant developmental feedback to students

Students expend a large proportion of their study time (up to 50% of the designated hours to undertake a course) doing assessment activities. Carefully designed assessment contributes directly to the way students approach their study and ‘contributes indirectly, but powerfully, to the quality of their learning’ (James et al., 2002, p. 11). The nature of developmental learning has been discussed in detail in Key Principle B and an important aspect is provision of meaningful feedback on students’ progress relative to grading criteria defined at the commencement of studies. Students’ expectations on feedback relate to the promptness with which regular feedback is received, the perceived quality of the feedback, confirmation of what has been done well, identification of areas for improvement, and guidance on how to improve in areas where low performance is indicated (Scott, 2006, p. 58).

‘I feel that the feedback on assignments is too slow and not adequate. I pay a lot of money to follow these courses and as feedback on assignments I expect this to be delivered in such a way that if I score 70% I want to know exactly what I should have done to score 100%. I sometimes do not even get a feedback on my queries at all. I am getting rather disappointed with this University’ (Student).

‘The hardest problem is obtaining quality feedback on assignments’ (Student).

Developmental feedback provides constructive comments and suggestions on how to improve assessment practices and learning. This can also include concepts of self- and peer-assessment as these are seen as essential in the development of ‘autonomous learners’ (Loacker, 2005, p. 17). Feedback and evaluation are not intended as a means of normalising results across cohorts but work in alignment with criterion-based assessment tasks to measure the degree to which learning objectives have been met.

5.10 Key Principles 1 to 3

Six dimensions of the students' learning experience have been examined in the previous discussions on Key Principles A to F and the sub-principles providing guidelines for operationalisation of each of the six principles. Key principles A to F and the sub-principles have provided guidelines for achieving constructive alignment (Biggs, 1999) within each respective dimension across the organisational context, the pedagogical framework and the educational setting. The following three sections explore the respective layers of the learning environment to indicate how alignment can be achieved within and across the three 'layers' of Goodyear's framework (Goodyear, 1999):

1. *The organisational context* – represented by **Key Principle 1**;
2. *The pedagogical framework* – represented by **Key Principle 2**; and
3. *The educational setting* – represented by **Key Principle 3**.

5.11 Key Principle 1 – The organisational context

This section discusses Key Principle 1 which provides guidelines for achieving alignment within the organisational context and across all layers of the pedagogical framework:

Organisational values focus on building student-centred learning communities and relationships that reflect concern and respect for all members of the community.

Examination of the sub-principles A1 to F1 that support Key Principle 1 has been undertaken in the discussions on Key Principles A to F, and is not repeated here. This section takes a broader view of how those sub-principles contribute towards achieving alignment within the organisational context. This approach to alignment is in keeping with Biggs' (2003) views on 'constructive alignment' which provides consistency between 'the curriculum we teach, the teaching methods we use, our

assessment procedures, the educational environment we create and the learning objectives we want our students to achieve' (Goodyear & Jones, 2004, p. 12).

In Goodyear's (1999) overall framework, the pedagogical framework and educational settings are created and developed within an organisational context, and if the organisational structures and constraints are not understood, there is a risk of 'idealizing the processes through which pedagogical frameworks, educational settings, tasks, learning environments etc. are created and developed' (Goodyear, 1999, p. 9).

If the core business of universities is 'preparing graduates for the current and future workforce' (Kirkpatrick, 2007, p. 5), then the education of students should be seen as the primary activity of universities. There is a need for 'appropriate relationships between various activities that form the business of the University' (Kirkpatrick, 2007, p. 5) and without a clear sense of relationships and synergies, we will continue endlessly to 'reorganize functions and responsibilities as we seek to determine the best mix of staff development, student support, pedagogy, policy, educational design, academic development and technology application and support' (Kirkpatrick, 2007, p. 5). USQ has maintained an underlying theme of student-centred flexibility for over a decade, but the University struggles to compete in a volatile higher education market that is constantly threatened by the prospect of rationalisation of universities that lie on the margins (Bradley et al., 2008; Duckett, 2005; Higher Education Review Secretariat, 2002b).

As part of the Cross-Divisional Efficiency Initiative (CEDI) and Realising Our Potential policy (Lovegrove, 2007b, 2007c), academic programs are being rationalised into smaller streams, individual courses are being withdrawn, and staff with considerable experience in distance education are leaving the University to take advantage of voluntary redundancy incentives (University of Southern Queensland, 2007m). However, a purely practical approach does not always produce the desired results:

'Men who boast of being 'practical' are for the most part exclusively preoccupied with means. But theirs is only one-half of wisdom. When we take

account of the other half, which is connected with ends, the economic process and the whole of human life take on an entirely new aspect. We ask no longer: what have the producers produced, and what has consumption enabled the consumers in their turn to produce? We ask instead: what has there been in the lives of consumers and producers to make them glad to be alive? What have they felt or known or done that could justify their creation? Have they experienced the glory of new knowledge? Have they known love and friendship?’ (Russell, 1992, p. 361).

Based on a philosophy that management should embrace perceptions of ignorance and incompetence as the organisational norm, Senge (2000) suggests an alternative view of leadership to the current one where change is driven from the top. He suggests that growth cannot be imposed as it is organic and ‘comes in addition to what is already happening, not instead of existing structures’ (Senge, 2000, p. 1). In his scenario, ‘the role of the leader or change manager is thus one of preparing the ground, nurturing the growth and fostering creativity’, and ‘the growth, development and learning comes (sic) naturally’ (Senge, 2000, p. 1).

For successful learning outcomes, University leadership must identify the disturbances that exist within the organisational system, and identify appropriate organisational strategies to deal with them. Moore (1994, cited in Berge & Muilenburg, 2006) highlighted the responsibility of senior leadership of universities engaged in distance education where:

‘...the barriers impeding the development of distance education are not technological, nor even pedagogical. We have plenty of technology, and we have a fair knowledge about how to use it. The major problems are associated with the organizational change, change of faculty roles, and change in administrative structures. Here we desperately need all the ideas and all the leadership that can be assembled. The starting point is to expose the problems’ (Moore 1994, cited in Berge & Muilenburg, 2006).

Berge and Muilenburg (2006) supported Moore’s view that barriers associated with organizational change are more critical than social interaction, quality concerns,

technical expertise and threats from technology. While Kuhn (1970) and Imershein (1976) have different philosophical views, they both see organisational change as a paradigm shift resulting from anomalies or ‘violations of expectations’ (Postle, Richardson et al., 2003, p. 166) perceived by members of the organisational system. Such anomalies arise through what Imershein describes as ‘competing paradigms’ (Imershein, 1976, p. 35; Postle, Richardson et al., 2003, p. 167) where those anomalies are recognised by staff and students and lead to disturbances in the system.

USQ policies and procedures are not fully focused on the ‘flexible needs or desires of students’ (Sturman & Cronk, 2003, p. 2). Although Taylor suggests that later generations of distance will deliver benefits for learners including more flexible access and ‘increased student control over their learning’ (Taylor, 1996, cited in Sturman & Cronk, 2003, p. 2), students still have not benefited to the maximum extent from the flexibility that new technologies offer. USQ may find itself in the same situation as that of Central Queensland University which found that its:

‘...overall flexibility, which is highly valued by its students and staff, is becoming stifled by external rules (and different interpretations of those rules), procedures, reporting requirements, funding arrangements, and employment restrictions designed for a past era’ (Higher Education Review Secretariat, 2002a, p. v).

Conflict between academic practices and administrative policies is a common occurrence because of the differences between ‘educational principles espoused by the academic staff and the principles articulated through the various administrative rules and regulations’ (Postle, 2004, p. 5). This is evident in the way that educational technologies are used, with staff acknowledging the ‘existence of a number of anomalies between what they believe to represent ‘good teaching’ and what in some respects they are actually doing’ (Postle, 2004, p. 5).

USQ staff have historically been cooperative and innovative in the adoption of new techniques and technologies, consistent with Imershein’s (1976) views on

organisational change by having adopted new ways of doing things where they have perceived that the change offers better or improved ways of performing their tasks and the outcomes are superior, and have not tended to 'sabotage a change or innovation' (Postle, 2004, p. 5). A risk is that the role of academic staff is 'unbundled' (Cunningham 2000, cited in Kirkpatrick, 2007) through increased specialisation such as the 'appointment of teaching only academic staff, increased use of casual and sessional staff with very different expectations, and an increase in the use of general staff categories to perform what were previously considered teaching roles' (Kirkpatrick, 2007, p. 7).

At USQ there are expectations that teaching will be 'innovative, student-centred, flexible and responsive' and that academic staff will 'engage in the discourse of quality teaching' (Kirkpatrick, 2007, p. 7). The responsibility of the University is to provide 'teaching and learning spaces that support a range of pedagogies and teaching approaches' (Kirkpatrick, 2007, p. 7) and to ensure that academic staff are adequately trained and equipped with the necessary technologies.

Key Principle 1 lays the organisational groundwork that is essential for effective postgraduate pedagogy, and guidelines must be defined at an organisational level to foster the development of an effective teaching environment. As Russell suggests:

'People do not always remember that politics, economics, and social organisations generally, belong in the realm of means, not ends. Our political and social thinking is prone to what may be called the 'administrator's fallacy', by which I mean the habit of looking upon a society as a systematic whole, of a sort that is thought good if it is pleasant to contemplate as a model of order, a planned organism with parts neatly dovetailed into each other. But a society does not, or at least should not, exist to satisfy an external survey, but to bring a good life to the individuals who compose it. It is in the individuals, not in the whole, that ultimate value is to be sought. A good society is a means to a good life for those who compose it, not something having a separate excellence on its own account' (Russell, 1992, p. 361).

Priorities within the University appear to value development of distance education teaching resources at a lower level than research or face-to-face teaching, and this can discourage participation in distance education for academic staff who are conscious of their prospects of promotion and tenure (Maguire, 2005). Distance education is a different paradigm to that of conventional tertiary education - distance education is '24 hours a day for the entire term' and there is 'no outside-of-class time' (Wilson et al., 2003, p. 7).

'...if you're just teaching on-campus, you teach a course – it's gone and you might not touch it again until you next teach it on campus – but with external it's always there' (Senior Academic).

Students now see themselves as 'clients' with associated privileges and expectations reflecting the language of university administrators, and this trend towards a business model leads to performance indicators and benchmarks that are associated with the new 'managerialism' in the university environment (Gare, 2006, p. 144). The student must be returned to the centre of the stage and be offered a truly flexible and individualised learning journey within the constraints of practicality and efficiency. To foster a viable postgraduate project management distance education program, the rhetoric of flexibility must be translated into a realistic and achievable model that satisfies both commercial and pedagogical imperatives. Leadership is tested most in the face of conflict and in complex organisations such as universities, responsibility for learning initiatives rests at the top (Latchem & Hanna, 2002). It will require 'leaders with the vision to change their institution' as well as managers and academic practitioners 'who can work together to achieve this change' (Lockwood, 2002, p. 200).

5.12 Key Principle 2 – The pedagogical framework

This section discusses Key Principle 2 which provides guidelines for achieving alignment within the pedagogical framework and across all layers of the framework:

Teaching and learning philosophies and strategies are learner-centred and encourage collaborative construction of knowledge and skills within communities of practice.

The themes in the six guiding sub-principles A2 to F2 that support Key Principle 2 have been defined and discussed in Key Principles A to F, and are not repeated here. This section takes a broader view of how those sub-principles provide guidelines to achieve alignment within the pedagogical framework, which comprises four layers (Goodyear, 1999):

- *Philosophy* relates to values, the nature of knowledge and how people should be treated, and reflects the collective beliefs of the project community involved in the teaching and learning activities;
- *High-level pedagogy* provides a way of ‘turning a philosophical position into a space of commitments and possibilities’ (Goodyear, 1999, p. 7), bringing some approaches for teaching and learning to the foreground, and relegating others to the background;
- *Strategy* provides a shared understanding and a broad-brush depiction of plans and actions that are necessary to achieve the defined objectives; and
- *Tactics* are ‘the detailed moves through which strategy is effected’ (p. 7).

Sub-principles A2 to F2 provide guidelines on how to achieve constructive alignment with ‘clearly defined learning objectives, well-chosen learning tasks and appropriate forms of assessment’ (Biggs 1999, cited in Goodyear & Jones, 2004, p. 12), articulation of educational purposes and ‘the construction of tasks appropriate to those purposes’ (p. 12). This is consistent with an ‘ecological perspective’ on distance education where appropriate consideration is given to the context in which individuals learn, and reinforces the ‘need to understand distance learners in their life contexts’ (White, 2005, p. 174).

To achieve constructive alignment within the postgraduate project management programs, the following issues should be addressed:

- the lack of consensus across the University on what constitutes postgraduate distance education and how learning at a distance is achieved,
- the conflict between recognised principles of collaborative learning and creation of large distance education classes of postgraduate students,
- the lack of clarity relating to distance education as the central core function of the University,
- the inconsistency between the multiple modes of offerings across and within faculties,
- the inconsistencies between the stated value placed on flexibility and the implementation and interpretation of rules and regulations,
- the conflict between stated values of learner- and student-centredness and the perceived focus on administrative efficiencies and cost-cutting,
- the conflict between the espoused value of postgraduate assessment as an integral part of learning, and the actual practices driven by cost effectiveness and administrative efficiencies,
- the lack of meaningful industry involvement in the development of postgraduate programs and courses, and
- the lack of graduate attributes for postgraduate students around which programs and courses could be structured.

Alignment across the pedagogical framework should be supported by authentic learning activities that:

- *'have real-world relevance,*
- *are ill-defined, requiring students to define the tasks and sub-tasks needed to complete the activity,*
- *comprise complex tasks to be investigated by students over a sustained period of time,*
- *provide the opportunity for students to examine the task from different perspectives, using a variety of resources,*
- *provide the opportunity to collaborate,*

- *provide the opportunity to reflect and involve students' beliefs and values,*
- *are integrated and applied across different subject areas and extend beyond domain-specific outcomes,*
- *are seamlessly integrated with assessment,*
- *yield polished products valuable in their own right rather than as preparation for something else, and*
- *allow competing solutions and diversity of outcomes'* (Reeves, 2003, p. 6).

USQ suggests that flexibility is an important differentiator in what it offers to students compared to other universities (Lovegrove, 2007a, 2007d). Flexibility is particularly important to postgraduate students but has never been defined in pedagogical terms. Complete flexibility is compromised 'the moment learning becomes institutionalised' (Nichols, 2001, p. 37) but there is no easy way of providing total flexibility which is impractical for both the institution and the students.

Nichols (2001) provides a valuable framework in Figure 5.1 indicating how postgraduate learning can be '*as flexible as possible* taking the level of the learner and the requirements of the institution into account' (Nichols, 2001, p. 37). The dimensions of 'purely flexible' education should be examined by USQ to explore ways in which many of the disturbances discussed above can be addressed in terms of timing, location and content.

Purely Fixed		Dimension		Purely Flexible
<ul style="list-style-type: none"> • Set duration • Fixed starting and finishing dates • Prescribed study timetable • Fixed assessment dates 	←	Timing (When?)	→	<ul style="list-style-type: none"> • Take as long as required • Start and finish when ready • Study anytime • Assessed when ready
<ul style="list-style-type: none"> • Attendance at specific locations required 	←	Location (Where?)	→	<ul style="list-style-type: none"> • Study anywhere
<ul style="list-style-type: none"> • No account of prior learning • Specified objectives • Prescribed content • Lock-step progression • Prescribed activities and tasks • Common assessment • Standard resources • Limited, class based use of information technologies 	←	Curriculum (What? How?)	→	<ul style="list-style-type: none"> • Modified according to prior learning • Individually negotiated objectives • Individually negotiated content • Individually negotiated sequence • Individually negotiated activities and tasks • Individually negotiated assessment • Varied resources as appropriate • Extensive, individual use of information technologies

Figure 5.1: Dimensions of flexibility
(Nichols, 2001, p. 38)

A major component of the University's strategy in distance education has been to expand its educational services into offshore markets through the activities of USQ International, and international students located offshore represent approximately a quarter of all enrolments (University of Southern Queensland, 2006). There are few explicit measures to adapt learning resources, teaching philosophies, and assessment practices to create an appropriate learning environment for international postgraduate students, who tend to become 'add-ons' to postgraduate programs that are focused on the needs of domestic students. International students adapt their learning in the best way that they can to suit their personal needs and objectives through what have been described as cultural 'border crossings' (Jegade 2000, cited in White, 2005, p. 171). This allows international students to make their learning meaningful to them in the

context of their particular environment and life experience, which in most instances remain invisible to the academic staff who have responsibility for their learning.

'My experience is that most of the books referred to for research are not available in my country and this makes studying very difficult' (Student).

'I try to source these locally first, but most are not available - even through Amazon' (Student).

'We need more study materials as there is little or no reference material available in the Middle East' (Student).

'The Tutor of Local agency is not well trained with tutorial skills and EXT students will suffer from their misrepresentation and miscommunication' (Student).

As discussed in Key Principle C, collaborative learning is an important aspect of postgraduate learning, but it is difficult to incorporate collaborative learning practices into large distance education classes, and there are few guidelines to assist academic staff in designing such learning tasks. Without collaborative tasks, there is a reduced likelihood of students benefiting from being part of learning communities (Garrison et al., 1999; Kehrwald, 2007a; McLoughlin & Luca, 2003). In large classes, the administration of the actual learning activities is a significant challenge for the academic facilitator, and this issue is discussed under Key Principle 3 relating to alignment within the educational setting.

5.13 Key Principle 3 – The educational setting

This section discusses Key Principle 3 which provides guidelines for achieving alignment within the educational setting and across all layers of the framework:

Conceptual beliefs about teaching and learning are reflected in learning tasks and activities that are located in meaningful and authentic settings.

Although the sub-principles that collectively define Key Principle 3 have already been discussed individually in discussions on Key Principles B to F, this section examines how they contribute to achieving constructive alignment within the educational setting, described as ‘a way of describing the real-world, concrete activities, processes, people and artefacts involved in a learning activity’ (Goodyear, 1999, p. 3). The educational setting brings together the tasks set by the academic facilitator and the learning activities carried out by the student, within the overall learning environment, and comprises:

- The (learning) environment (including the use of technology),
- (Learning) tasks, and
- Student (learning) activity (Goodyear, 1999).

As the learning environment incorporates the specific locations where the postgraduate student undertakes much of the learning, such as at home, at work, or whilst travelling, it is often beyond the control, or even the influence, of the academic facilitator. Although teaching staff define the learning tasks, they must pay close attention to what the learner is actually doing as learning depends crucially ‘on the activity of the learner - mental and physical’ (Biggs, 1999, cited in Goodyear & Jones, 2004, p. 12), and features of the educational setting are ‘powerful influences on what the learner does’ (Goodyear & Jones, 2004, p. 12). The setting is no longer considered to be an inert element in the learning equation and learners must be understood in their real life contexts (White, 2005).

‘Constructive alignment’ (Biggs, cited in Goodyear & Jones, 2004, p. 12) focuses attention on well-chosen learning tasks and appropriate forms of assessment, but each student will interpret the learning tasks in a unique way, and undertake them in a way that has meaning for them in view of their learning objectives. Learning tasks must be sufficiently well-specified that ‘the chances of a learner engaging in unproductive activity are kept within tolerable limits’ but they must also have sufficient openness in order to ‘meet variable learner needs and initiate a creative response’ (Goodyear, 1999, p. 4).

To achieve effective learning outcomes, activities should be developed around an appropriate framework to include:

- *Interaction* between instructor-student, student-student, student-content and student-interface – this is not always the situation in the case study setting, where postgraduate distance education programs promote individual and isolated learning activities both implicitly and explicitly;
- *Introspection* through the interpretation, revision and conceptual understanding of the curriculum – this is not always incorporated into the learning tasks set for distance education students nor in the assessment models used to measure learning outcomes;
- *Innovation* through the use of a variety of learning modalities to provide diversity of instruction for all learning styles – this is gradually increasing through better use of educational technologies both online and incorporation of CD-ROMs, although their use is the exception rather than the rule;
- *Integration* of facts, concepts, theories and practical applications of knowledge; and
- *Information* gained through diverse assessment measures to ascertain whether students have acquired the basic knowledge necessary to advance to the next level of learning – this is not a strong point of postgraduate studies at USQ where concerns for the authenticity of assessment (for example, through the use of examinations over other forms of assessment) often outweigh those of evaluating learning outcomes (Olcott 1999, cited in Williams, 2004).

For postgraduate students involved in professional development, the learning process can be enriched through small group work and this should become an important aspect of the course (Askov & Simpson, 2001). Students find group work valuable in terms of the sense of community that can be built and the value and support that is provided, but collaborative learning tasks for large classes represent significant challenges in terms of management and assessment.

The responsibility of the academic facilitator is to develop constructivist environments that engage learners so they can ‘construct the knowledge that is most

meaningful to them’ (Jonassen et al., 1995, p. 13). Postgraduate students must be engaged in knowledge construction through collaborative activities that ‘embed learning in a meaningful context and through reflection on what has been learned through conversation with other learners’ (Jonassen et al., 1995, p. 13). In this regard, educational technologies can play an increasingly important role through computer-mediated communication (Jonassen et al., 1995).

Technology has an important role both in the learning activities and in terms of the actual learning outcomes. Greater use of technology and software programs related to project management practice must be incorporated into the learning tasks, so that skills can be developed in their use and application in professional environments both as a learning outcome and as a graduate attribute.

This study confirms the importance of alignment between the nature of postgraduate assessment, the activities that the students actually undertake (based on their understanding of the objectives of the assessment), and the feedback that they receive, which should be explanatory and diagnostic (Centre for the Study of Higher Education, 2002c). However, there are many instances of automated assessment tasks that provide little developmental feedback, but instead encourage a pass/fail mentality and the associated shallow learning practices on the part of students (Centre for the Study of Higher Education, 2002b). Even where authentic or meaningful assessment has been set, students are often ‘at a loss as to how they are to show such learning’ (Morris et al., 2004, p. 94) and place great importance on the feedback for assignments.

A constructivist perspective views the teacher as the facilitator in the learning process and believes that postgraduate learning takes place as the student ‘actively participates, interpreting, processing and constructing new knowledge’ (Morris et al., 2004, p. 92). Both learning and assessment should be contextual, and alignment within the educational setting cannot be achieved without:

- ‘active learning processes;

- interactive learning which allows collaboration of instructor and students in the process;
 - a cooperative learning environment;
 - tasks which provide individual engagement of the learner;
 - opportunities for reflection; and
 - meaningful learning experiences which relate to the student's own 'world'
- (Morris et al., 2004, p. 92)

Achievement of constructive alignment within the educational setting will not be achieved without a consistent approach towards the definition of learning objectives, the design of learning materials and tasks, the activities undertaken by the postgraduate students, and the evaluation of learning outcomes.

5.14 Summary of study outcomes

Chapter 1 has discussed how this study emerged because of issues arising from the conflict between organisational values related to distance education and pedagogical practices in the provision of postgraduate project management education. To understand and address those issues, this study was undertaken in order to answer the question:

What are the guiding principles for the development of a conceptual framework for postgraduate distance education in project management?

Chapter 2 placed the study in context and provided justification for the adoption of Activity Theory (Engeström, 2000) as an holistic framework with which to undertake the study. Justification for the design of the study and details of the methodology and techniques were provided in Chapter 3, and the collection and analysis of data were examined in Chapter 4 which also showed how the guiding principles were generated. Chapter 5 has discussed the implications of each principle for the case study setting.

The findings from this study are embodied in the 9 key principles and the 16 sub-principles discussed above, and recommendations for administrative and academic elements of the University are summarised below.

5.14.1 Recommendations for policy-makers and administrators

To implement the guiding principles in the DELPHE framework, recommendations for University policy-makers and administrators include:

- Distance education teaching and learning must be acknowledged as a *core function* of the University consistent with its vision, mission and values;
- *Constructive alignment* must be achieved across all administrative and academic functions of the University involved in the delivery of distance education;
- *Postgraduate teaching and learning* at a distance must be recognised as a discrete component of teaching and learning with specific characteristics and resource requirements;
- Administrative and academic policies, regulations and practices must incorporate genuine *openness* and *flexibility* as essential attributes of postgraduate distance education;
- Academic staff must be adequately *trained and resourced* to teach postgraduate programs at a distance.

5.14.2 Recommendations for academic staff members

To implement the guiding principles in the DELPHE framework, recommendations for University staff include:

- Administrative, teaching and learning practices should evolve from a *student-centred learning community*, driven by an understanding of the postgraduate distance education students in the project management programs, and their needs and objectives as lifelong learners;
- Relevant *graduate attributes* should be defined for postgraduate students in the project management programs, and learning tasks, activities and assessment should be structured towards development of those attributes;

- Postgraduate distance education students should engage in *interactive* and *collaborative* learning tasks and activities in order to attain high-level intellectual skills and abilities that are required for project management practice;
- Postgraduate distance education students should engage in *situated learning*, where tasks and activities take place in authentic project management contexts that respect students' individual learning settings and circumstances;
- Postgraduate programs in distance education should be structured with regard to curriculum and assessment to deliver *learning outcomes* that are endorsed by all stakeholders in the project management programs, both internal to and external to the University.

5.15 Limitations of study

The nature of the research problem dictated a case study approach in order to fully understand the range of factors to be considered in the development of the key principles. It was important to take an holistic approach to the investigation in order to fully identify the full range of stakeholders, their roles, the constraints and the underlying contradictions. Although aspects of the study necessitated consideration of other dimensions of the University, the major focus of the investigation remained on the postgraduate project management distance education program, and the outcomes are intended to assist in the development of a suitable framework for the next stage of development of that program. Because of this major focus, the research design and methods limit the extent to which the findings of this study can be generalised to other disciplines, other programs, and other modes of study. As the organisational philosophy, culture and values are determined to a large extent by specific individuals within the University, it is not possible to generalise the findings to other University contexts, although some of the principles may be applicable to postgraduate or distance education programs of a similar nature.

The strengths of the study include the student-centred approach adopted to collect and analyse the data, the use of AT (Engeström, 2000) to provide an holistic framework, and the breadth of the pedagogical framework by Goodyear (1999) that

was adopted to interpret the findings. Although the focus was on postgraduate distance education studies in project management, the study revealed that the need to reinstate teaching and learning to its central position is paramount, and the most fundamental principle remains – ‘good teaching is good teaching’ (Ragan, 1999).

5.16 Recommendations for further research

The findings of this study provide a strong platform for further research into the key principles to better understand postgraduate distance education in project management. This understanding will be increased by undertaking research studies as follows:

- Exploratory research should be carried out to examine the concepts of ‘*openness*’ and ‘*flexibility*’ as they relate to the project management programs. In what additional ways, and to what extent, can openness and flexibility be achieved in postgraduate distance education?
- Exploratory research should be carried out to examine the concept of ‘*constructive alignment*’ (Biggs, 2003) within and across the organisational and pedagogical layers of USQ (Goodyear, 1999). In what additional ways, and to what extent, can constructive alignment be achieved to benefit postgraduate distance education?
- Empirical research should be carried out to gain a better understanding of the teaching and learning concepts of ‘*learner-centredness*’, ‘*situativity*’ and ‘*collaborative learning*’ in postgraduate distance education.

5.17 Concluding thoughts

This study has come about from the author’s reflections on personal teaching practices, and a desire to understand the circumstances in which postgraduate distance education teaching is practised and the roles of those who form part of the learning and teaching community. The study is broad in scope because that was essential to avoid a disjointed and fragmented exploration of the learning

environment within which postgraduate distance education study takes place. The study has highlighted the complexity of the learning environment, and the scope of the contribution of other members of the community to the development of an academic program. Most academic and non-academic staff members are enthusiastic, creative and innovative, and this is reflected in the educational programs that are available. However, the complexity of large organisations and learning communities is a fertile breeding ground for conflicting views and these are reflected in the issues that prompted the study initially.

Being a fellow student has made this study into the experiences of postgraduate distance education students all the more important and real for the author. Students have been extremely supportive, participating in interviews, surveys and focus groups, and constantly enquiring about progress. The desire to use the outcomes of the study to improve students' learning experiences has provided ongoing motivation, and a desire to make a real contribution to the University community has provided encouragement to find meaningful outcomes.

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APPENDICES

Appendix 1: Questions for Phases 1 to 3 of the semi-structured interviews

Phases 1 and 2 questions: Interviews 1 to 5	Phase 3 questions: Interviews 6 to 12
<p>Training and education in project management</p> <ul style="list-style-type: none"> • What do you think are the major objectives of PM training and education? • What sort of learning environment would be effective for achieving those objectives? <p>Characteristics of project managers</p> <ul style="list-style-type: none"> • How would you describe typical characteristics and attributes of PM students before and after education and training? <p>Selection of training and education</p> <ul style="list-style-type: none"> • What factors do you think are relevant in selecting appropriate training and education in project management? • What value, if any, does workplace learning add to PM training and education? <p>Professional bodies and accreditation requirements</p> <ul style="list-style-type: none"> • Accreditation as a project manager with the Australian Institute of Project Management is based on competency-based assessment with no consideration of tertiary qualifications. In what ways, if any, should consideration be given to the requirements of professional accreditation when selecting a training and education program? <p>Distance education</p> <ul style="list-style-type: none"> • In what ways might distance education impact on the effectiveness of a PM training and education program as compared with face to face education? • In what ways might computer- and internet-based technologies impact on the effectiveness of a PM training and education program? <p>Other issues</p> <ul style="list-style-type: none"> • Are there other significant issues that you think should be considered during research into PM education and training? 	<p>PG PM distance education at USQ</p> <ul style="list-style-type: none"> • In what way are you involved with PG DE at USQ? • In your experience, how would you describe the major characteristics of DE students doing PG study at USQ? • How would you describe the circumstances under which they study? • What do you see as the desired learning outcomes of PG DE students? • What are the things that USQ does well to assist students in achieving their outcomes? • What are the things that USQ doesn't do well to assist students? • How does the nature of PG study in DE mode influence the content and structure of programs and courses? • In what way are the graduate attributes of PG students different to undergraduate attributes? • To what extent do you try to develop PG competencies through DE? • What forms of assessment are appropriate for evaluating competencies? • What sorts of PG competencies cannot be developed through DE? • What would you like to change most about the study experience at USQ of PG DE students?

Appendix 2: Part A of survey instrument

PART A: PERSONAL BACKGROUND

Please provide the following information so we understand the context in which you have undertaken your studies.

A.1	Your background	
1.1	Gender	Male Female
1.2	Age bracket	under 25 25-34 35-44 45-54 55 or over
1.3	Is English your first (or native) language?	Yes No
1.4	How would you describe your English language reading skills?	Fluent Good Adequate Poor
1.5	How would you describe your English language writing skills?	Fluent Good Adequate Poor
1.6	How would you describe your English language spoken skills?	Fluent Good Adequate Poor
1.7	Did you have any significant family commitments that restricted your ability to carry out your studies?	Yes No
1.8	Did you have any significant work commitments that restricted your ability to carry out your studies?	Yes No
1.9	Please indicate any disability that restricted your ability to carry out your studies?	Not applicable Limited vision Limited mobility Limited hearing Other
Please tell us anything else we should consider about your background that has affected your studies.		

A.2	Your career background:	
2.1	How would you describe your employment situation during the greater part of your postgraduate studies? Please choose one.	Working full-time Working part-time Not working Other
2.2	How would you describe the industry or industries in which you worked during your postgraduate studies? Please choose as many as are applicable.	Business/management/commerce Construction/property development Defence/Defence-related Education Engineering/civil/mining/high technology Health Information systems/information technology/software Manufacturing/industry/logistics Other industry Not applicable
2.3	How long have you worked in a 'project management' related position or organisation?	Less than 5 years 6-10 years 11-20 years More than 20 years Not applicable
2.4	How would you describe your level of responsibility as a 'project manager'?	Project director/program manager (mostly responsible for managing multiple projects) Project manager (mostly responsible for managing single projects) Project team member (mostly working on a single project under the responsibility of a PM) Not applicable
Please tell us anything else we should consider about your work and career that has affected your studies.		
Comment:		

A.3	Your education background:	
3.1	Did you have an undergraduate Bachelor's degree prior to commencing postgraduate studies?	Yes No
3.2	Please indicate the major area of your postgraduate studies. Please choose as many as appropriate.	Business/management/commerce Construction/property development Defence/Defence-related Education Engineering/civil/mining/high technology Health Information systems/information technology/software Manufacturing/industry/logistics Project management Other
3.3	What proportion of your postgraduate studies have you undertaken in distance education mode?	All Part only None Not applicable
3.4	Were your postgraduate studies self funded or funded by other sources (e.g. your employer, scholarship)?	Fully self funded Partially self funded Fully funded by others (e.g. employer, scholarship) Other
3.5	Which of the project management core courses have you have studied at the University? Please select as many as appropriate. (NOTE: Some of the course names might have changed in recent years – please select the appropriate course code)	MGT8022 Project Management (Framework) MGT8024 Project Quality, Risk & Procurement Management MGT8025 Project Scope, Time & Cost Management MGT8026 Project HR & Communications Management (now discontinued) MGT8027 Project HR, Communications & Integration Management
Please tell us anything else we should consider about your education background that has affected your studies.		
Comment:		

A.4	Your experience with distance education	
4.1	Please indicate the highest level at which you have undertaken distance education studies (whether you have finished or not).	Undergraduate degree Postgraduate certificate Postgraduate Diploma Master's degree Doctoral degree Not applicable
4.2	Considering all of your distance education studies to date, how much of your distance education have you undertaken at the university?	All Part only None
4.3	In which region were you living while undertaking distance education studies? Please choose as many as appropriate.	Australia Asia Africa Eastern or Western Europe North America South America Other
4.4	In how many courses have your distance education study materials been supplied in print form?	All Most Some None
4.5	In how many courses have your distance education study materials been made available online?	All Most Some None
4.6	In how many courses have your distance education study materials been supplied on CD-ROM?	All Most Some None
Please tell us anything else about your distance education experience to date that you feel is important.		
Comment: <div style="border: 1px solid black; height: 100px; width: 100%; margin-top: 5px;"></div>		

Appendix 3: Part B of survey instrument

PART B: DISTANCE EDUCATION EXPERIENCES

Part B comprises a series of statements about postgraduate distance education. For each statement, please indicate your response by selecting one of the five responses in each of the two columns as illustrated in the example below.

- Column 1 seeks information on your experiences to date with this issue.
- Column 2 seeks information on how important you think this issue is.

Please add some comments in your own words in the box at the end of each group of statements.

EXAMPLE OF QUESTION AND TYPICAL ANSWERS

No.	(Example only)	What has been your experience to date?	How important do you think this issue is?
	University study is a good way of making new friends	Strongly agree	Of extreme importance
		Agree	Of significant importance
		Indifferent	Of some importance
		Disagree	Of slight importance
		Strongly disagree	Of no importance at all
		NOTE: In this example, my response indicates that I strongly agree with the statement that 'university study is a good way of making new friends'.	NOTE: In this example, my response indicates that I think that this is only of 'slight importance'.

B.1	You as a learner		
	At the time you commenced your studies, the university has:	What has been your experience to date?	How important do you think this issue is?
1.1	made adequate allowances for any family commitments that may have restricted your ability to undertake studies		
1.2	made adequate allowances for any work commitments that may have restricted your ability to undertake studies		
1.3	made adequate allowances for any disabilities that may have restricted your ability to undertake studies		
1.4	made adequate allowances for any illness or injury that may have restricted your ability to undertake studies		
1.5	made adequate allowances to address the sense of isolation you may have felt as a distance education student		
1.6	structured the academic program in such a way as to allow you to remain in full-time employment during your studies		

B.2	Your study objectives and learning outcomes		
	Your studies have:		
2.1	been focused on gaining a postgraduate qualification		
2.2	increased your chances of promotion with your employer		
2.3	increased your chances of finding a better job with a different employer		
2.4	given you a sense of pride and/or self satisfaction		
	Your studies have helped you to develop the following attributes:		
2.5	Communication: The ability to communicate effectively and appropriately in a range of contexts using communication, literacy, numeracy and information technology skills.		
2.6	Critical and creative thinking: The ability to collect, analyse and evaluate information and ideas and solve problems by thinking clearly, critically and creatively.		
2.7	Social interaction: A capacity to relate to and collaborate with others to exchange views and ideas and to achieve desired outcomes through teamwork, negotiation and conflict resolution.		
2.8	Independent and lifelong learning: A capacity to be a self directed learner and thinker and to study and work independently.		
2.9	Ethics: An awareness of and sensitivity to ethics and ethical standards on interpersonal and social levels, and within a field of study and/or profession.		
2.10	Social justice: An acknowledgment of and respect for equality of opportunity, individual and civic responsibility, other cultures and times, and an appreciation of cultural diversity.		
2.11	Global perspective: An awareness of and respect for the social, biological, cultural and economic interdependence of global life.		
2.12	Interdisciplinarity: A capacity to acquire knowledge and understanding of fields of study beyond a single discipline.		
2.13	In-depth knowledge of your field of study: A comprehensive and in-depth knowledge of your field of study, and defined professional skills for that field.		
Please tell us about any other study objectives and learning outcomes that have affected your studies.			
Comment:			

B.4	Expectations and requirements		
	The university has:		
4.1	set appropriate requirements for gaining entry to academic programs		
4.2	provided adequate choices of study pathways to achieve your objectives and learning outcomes		
4.3	provided adequate choices of study modes on a course-by-course basis (e.g. on-campus, external or online)		
4.4	allowed you to set the pace at which you carry out and complete your studies		
4.5	been sensitive to cultural issues that affect your studies		
4.6	imposed rules and regulations that have restricted the way you wish to carry out your studies		
4.7	been fair in its interpretation of rules and regulations		
	Your studies have:		
4.8	set achievable study workloads		
4.9	had consistent requirements from course (subject) to course		
4.10	put you at a disadvantage because of the need to have prior experience in the workplace		
4.11	caused you to incur unnecessary costs in carrying out your studies		
Please tell us about any other expectations and requirements that have affected your studies.			
Comment:			

B.5	Teaching and learning methods		
	The university has:		
5.1	provided adequate study and support materials in print form		
5.2	provided adequate study and support materials online		
5.3	used user-friendly technology for you to access the online environment		
5.4	provided adequate study and support materials on CD-ROM		
	Your studies have:		
5.5	Required too much time to be spent reading study materials, text books, and other materials		
5.6	required English language reading skills that are too high		
5.7	required English language writing skills that are too high		
5.8	required English language speaking skills that are too high		
5.9	focused too much on the theory and not enough on practice		
5.10	used real-life situations from your workplace for learning		
5.11	required too much use of computers and other technology		
5.12	used group work and team work as an effective way of learning		
5.13	set the appropriate amount of assessment in each course		
5.14	set the type of assessment that matched the objectives of the overall program and of each course		
5.15	set the type of assessment that allowed you to adequately demonstrate your skills and knowledge		
Please tell us about any other ways in which teaching and learning methods have affected your studies.			
Comment:			

B.6	Who does what?		
	The university has:		
6.1	made clear the objectives of the overall program of study		
6.2	made clear the objectives of each course (subject)		
6.3	made clear what is expected of you and other students		
6.4	provided clear guidance and assistance on how to develop study skills		
6.5	provided clear guidance and assistance on how to study via distance education as opposed to other modes of study		
6.6	made clear what you can expect from the teaching staff		
6.7	made clear what you can expect from the support staff		
6.8	met all of its obligations and has done everything it said it would		
	Your studies have been structured and delivered in a way that:		
6.9	encouraged you to learn from the knowledge and experience of other students		
6.10	encouraged you to learn from the knowledge and experience of people in your workplace		
Please tell us about any other ways in which the actions of others have affected your studies.			
Comment:			

Appendix 4: List of nominal group sessions and participants

	NOMINAL GROUP 1 (Strand C – The peer group)
Participant code	8th February 2007 8.45 am to 10.00 am
FG101	USQ Senior Lecturer, Faculty
FG102	USQ student, employee in Queensland Government Department
FG103	USQ Lecturer, Faculty
FG104	USQ PhD student, USQ Tutor, Faculty
FG105	USQ Manager, DeC
FG106	USQ student, USQ administration employee
(Supervisor)	Observer
(Research assistant)	Assistant
(Author)	Facilitator
	NOMINAL GROUP 2 (Strand B – The academic facilitator)
	Tuesday 20th February 2007 8.45 am to 9.45 am
FG201	USQ PhD student, USQ Lecturer, Faculty
FG202	USQ Associate Dean, Faculty
FG203	USQ Senior Lecturer, LTSU
FG204	USQ Associate Dean, Faculty
FG205	Ex-USQ Senior Administration Manager
(Supervisor)	Observer
(Research assistant)	Assistant
(Author)	Facilitator
	NOMINAL GROUP 3 (Strand D – The workplace)
	Tuesday 20th February 2007 10.00 am to 11.00 am
FG201	USQ PhD student, USQ Lecturer, Faculty
FG202	USQ Associate Dean, Faculty
FG203	USQ Senior Lecturer, LTSU
FG204	USQ Associate Dean, Faculty
FG205	Ex-USQ Senior Administration Manager
(Supervisor)	Observer
(Research assistant)	Assistant
(Author)	Facilitator
	NOMINAL GROUP 4 (Strand F - Assessment)
	Tuesday 20th February 2007 11.00 am to 12.15 pm
FG201	USQ PhD student, USQ Lecturer
FG202	USQ Associate Dean
FG203	USQ Senior Lecturer, LTSU
FG204	USQ Associate Dean
FG205	Ex-USQ Senior Administration Manager
(Supervisor)	Observer
(Research assistant)	Assistant
(Author)	Facilitator
	NOMINAL GROUP 5 (Strand E – The learning resources)
	Thursday 22nd February 2007 9.00 am to 10.15 am
FG301	USQ Manager, Executive Office
FG302	USQ Library staff member
FG303	USQ PhD student, Tutor, Faculty

FG304	USQ Administration Manager, DeC
FG305	USQ Professor, Faculty
FG306	USQ Senior Lecturer LTSU
FG307	USQ Senior Lecturer LTSU
FG308	USQ Professor LTSU
(Supervisor)	Observer
(Research assistant)	Assistant
(Author)	Facilitator
	NOMINAL GROUP 6
	(Strand A – The learning institution)
	Thursday 22nd February 2007 10.15 am to 11.30 am
FG301	USQ Manager, Executive Office
FG303	USQ PhD student, Tutor, Faculty
FG304	USQ Administration Manager, DeC
FG305	USQ Professor, Faculty
FG307	USQ Senior Lecturer LTSU
(Supervisor)	Observer
(Research assistant)	Assistant
(Author)	Facilitator

Appendix 5: Example of comparison of initial interviews

The table below provides a comparison of interview transcripts for question 2 of the three interviews in Phase 1, with a summary of the responses provided at the bottom of the interview transcripts.

- ‘T’ denotes the author as interviewer
- Recurring themes are highlighted in yellow

What sort of learning environment would be effective for achieving those objectives?		
Interviewee PRM-001 QUESTION 2	Interviewee STU-003 QUESTION 2	Interviewee ACA-010 QUESTION 2
<p>T. OK, there is no real distinction between a lot of the questions - they tend to roll into each other so I guess from the point of view of the student, the next question is ‘what sort of learning environment would be effective for achieving those objectives that we just talked about?’ so from your experiences ‘how would you describe the best learning environment?’</p> <p>H. Well, it is much easier for people to learn if they have a project to learn on. Whether it’s the project they are doing or a project that is a scenario that is given to them. I have actually conducted training in this department and in my previous job – it was easiest for people to learn when they had that environment. They could say ‘this is my project – it has real meaning to me and I can</p>	<p>T. So now that you know what you’re trying to achieve, and you have a better idea, having already done some of the project management subjects, what sort of learning environment do you think is most effective for achieving those learning objectives?</p> <p>M. Well, what I looked at is – for me I need a learning environment that is conducive to learning. I choose external studies but from that, I need it to meet my needs – when, how, why. All the normal – I’m in control basically, of what I do, when I do it, how I do it, as long as I meet the deadlines for assignments and start the semester. Then I need easily accessible information – that means that’s coming from the academic side as well as the facilitators like yourself. I need to be able to access that easily...</p> <p>T. Do you think that happens in</p>	<p>T. The second question leading on from there says what sort of learning would be effective for achieving those objectives?</p> <p>J. You see, we have got an undergraduate course as well here in this university in project – which is called project engineering and management, which is basically – this is also very new. It started a few years ago only, and – it’s a – we admit reasonably high level students, normally in the university admission index of Sydney, not Sydney, New South Wales and ACT, we have – sort of have an admission index of over ninety, normally ninety-five, which is quite high compared to the average engineering intakes, for example, which is a bit lower, and this course that we offer, has got some like three years of engineering and science and one year of project management, and then – so this is for</p>

<p>add all the learning around that'. What has been the most difficult is people who are looking at going into a project management job or people who are trying to gain a qualification so that they can go into project management who don't have a current project. A lot of the training is structured around 'well, apply this to your current project' but people don't have a current project – it is really difficult for them and developing a scenario that will apply – if people come into a classroom say and the lecturer or trainer has to cuff a scenario, it gets really, really weak, and difficult for the students, so, case study method, I guess it is the heart of case study, but even much more detailed, is very useful, people can see 'here is a theory, we going to do some risk management – you can read the Australian Standards as many times as you like but until somebody says 'here is your risk in your project, and the likelihood of it happening is this, and here is some mitigation strategies' that's when it starts to become learning that they can actually use.</p> <p>T. When you say case study, do you mean a generic case study that is used by all students in the learning context or individualised from their own</p>	<p>your current experience?</p> <p>M. Oh, yeah. Yeah. Too easy. I know I've only got to get on the email and that's whether I contact through the facilitator or through the university itself or Brisbane. It's not a hard process; it is very, very easy.</p> <p>T. OK, we'll come back and have a talk about, I guess, the intricacies of distance education at a later stage. So, in terms of on-campus versus off-campus, and things like that, what do you think of the strengths and weaknesses?</p> <p>M. Yes, I conducted my, or completed my, undergraduate degree flexible learning, so that was half and half, that was sort of like, half on-campus and half off, and at the end of the degree, there was less time for face to face, and we still found that face to face was important. However, I wasn't working full time then, and I didn't have the level of accountabilities and responsibilities that I have now, and now I need something that's what I need for education – when I want it, how I want it, not just – I have to go to class on this date, I have to be there for this time. I don't have to do that. I don't have to do that at all. So I choose the external...</p> <p>T. So flexibility is really one of the key things...?</p> <p>M. I need to have that with the role</p>	<p>undergraduates, these are formative years and I think graduates have been very popular with employers so – we have had only a handful of them so far. They are very competent when they go to work as graduate engineers I would say. In terms of postgraduate and the Master's, I believe the environment for them should be a lot more self-referential and autonomous learning and self-assessment and peer-assessment. I think autonomous learning is a very important concept in our approach, and of course, mentoring and constant feedback situation. Why people come to university, like Sydney or others, is to acquire a new mindset, but they also have to be encouraged to learn the skills of – or if you like the learning skills, the self development skills, self referential skills, so we see our mission is to challenge the students in terms of their established paradigms but also to make sure that they definitely have the competencies needed to cope with all the change and turbulence which goes on in the real world, and to constantly self assess, to be able to adjust to new situations, so really adaptability, self management, team management, organisation management are core competencies that they have to pick up.</p>
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<p>personal experiences?</p> <p>H. It is always preferable I think if they can bring their own project along but sometimes you find that they just don't have the detailed information on those projects to progress them, and if I was running a course, I'd have a prepared project as a fall back so if they don't have an adequate project, or no project, then you would need a whole thing thought through from concept to finalisation and be able to apply the input to the students... We did this on a very short course, an introductory course, where a couple of us wrote the course and we generated a project that was something that would happen in this department and we had scenarios so instead of just saying your risk matrix – wrote a risk matrix and said 'now from that develop your risk analysis, and people were able to see from their vocational experience and the scenario, they were able to actually extract the risk. Much harder of course if you are doing a generalist audience, but that's the thing that would attract people I think and make it valuable for them.</p> <p>T. So, where do you think this training should be best located?</p> <p>H. Physically? That's really,</p>	<p>that I'm in at the moment...</p> <p>T. So you wouldn't like to go down to QUT two hours every Tuesday night and every Thursday night and sit in the classroom?</p> <p>M. When I first started or looking around to see what I was going to do for my Master's, I looked at QUT, because it's close, and I could just drop down from work but I didn't like the university – I didn't like their approach, so I wiped that – and after taking on external studies, you can see the value in not having to go to class because if I have to go to class, I have to have time to get there, time to get back, and that's not by my time. It's necessarily by the university's time to be there, so at this stage, I can just go home from work and start my studies when I get home, and do it on weekends...</p> <p>T. Take it on holidays?</p> <p>M. I've just got a laptop, so I take it on holidays.</p> <p>T. OK, the comment you just made there about you didn't like QUT, and I'm not trying to bag QUT, because I've studied at QUT, but what sort of issue came up that you disliked about the sort of QUT alternative?</p> <p>M. The alternative, it was – it cost a lot more, they were not giving a lot out of that, because I think that one</p>	<p>T. Two things there – talking about the competencies, you're obviously talking about competencies at a higher level than vocational competencies which we discussed before.</p> <p>J. Certainly. We – we have got a set of competencies which are really – and apart from those competencies, generally speaking, when we assess students, we are really looking for they're demonstrating a degree of independent thinking and meta-cognitive abilities, and bringing refreshing perspective on issues that they look at, so really – we are not looking for people who can just sort of – against a checklist, say that 'yes, I can do this, I can do that', but we are looking for someone who can prove to us that if they are put in charge of a situation, they can rise above all the complexities.</p> <p>T. And you mentioned autonomous learning. How would you describe autonomous learning in your context?</p> <p>J. OK. Autonomous learning – you need to – people need to be able to understand where they need to improve themselves along the three dimensions I guess. One would be the technical dimension, that's the base discipline, and second would be in terms of managerial</p>
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<p>again, in the eye of the beholder. I have trained people face to face, part time, full time, and by distance education, and it all comes down to the preference of the student. Some love the idea of being given the material and 'leave me alone and let me go and do it' and others just can't cope with that. Now, and I guess the worst case is if someone chooses distance education when they need face to face, they always struggle. Face to face is good as long as the class size is not too big.</p>	<p>of the things they said on it was there was, there had to be a maximum of, or a minimum of, twelve students, and if they didn't get that, there would be no class, so technically I was paying for face to face, but you might have a classroom, might not have a classroom, so at the end of the day, that didn't suit my need, and their client satisfaction – I didn't think very much of that. They came across as 'Big Brother' – I shouldn't say 'Big Brother' should I? They came across as the top university and you just fall into line, and I'm afraid that didn't sit well with me – not at all.</p> <p>T. And in what sort of dealings with QUT did that sort of attitude come across? In an administrative thing, or an academic side?</p> <p>M. Administrative and academic. What I did was I kept in touch with the Uni and I actually put my application in and I actually went to one of their evenings that talked about all their – the subjects, what they're offering, when they're offering it – I can't remember how many times you're expected to go to class, but it wasn't very often, and then dealing with their administrative side, what I was doing, they were not interested in the client. They were interested in what to me came across as dollars. You're the student, we're the university, and this is what you do. Fall into line basically, and I came from Griffith (University) where it</p>	<p>capabilities. The third in terms of, if you like, socio-cultural capabilities and leadership. So people have to know - to understand how to assess themselves in terms of performance that they have in all of these areas and ability then to initiate actions or actions, or take part in activities which will address the deficiencies. The culture that we have in industry at the moment is a very unhelpful culture in the sense that some experienced, supposedly experienced, project managers think that they know it all, and that that's the way that they do things is the correct way, and that they are not really prepared to even consider things, and I think sometimes projects and businesses suffer enormously as a result. You will find that the resistance to learning is a big issue in this industry because, for example, a very senior project manager who goes to a job and instead of focusing on the strategic side of projects, if he's been a contractor – from the contract side of the things, he tends to be carried away by the contract management side of the things, and spends an enormous amount of time making sure that you're contractually doing the right thing, and legally doing the right thing. If another person comes from the QA (author's note: Quality Assurance) background, the person tends to pay more</p>
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	<p>was not that approach at all, and USQ is very high on their customer service. You know, you're a student, but you're a client, and that's a plus.</p> <p>T. A number of people find a similar, I guess, experiences with UQ and QUT, the bigger universities tend to become impersonal.</p> <p>M. And I just pulled my application. I had everything in - did all the paperwork and pulled it.</p>	<p>attention to the processes and procedures than the substance of what's going on, and so...</p> <p>These are all symptoms of people not being autonomous learners to some extent. I think this culture has to be changed, and a proper professional person when walks to a job, must first of all, understand that his or her own deficiencies are on, or – deficiencies of other people are sort of – assessment of self and peers is very important, and that should be done and followed by making sure that their actions to address those deficiencies – so autonomous learning is about a readiness to accept that one's knowledge and competencies need constant updating and that one has to constantly assess both mentally and formally where one stands in relation to the challenges one faces, and then, basically, to take action to redress any deficiencies, to be able to promote professionally and systematically approach a task or an activity.</p> <p>T. OK, that's really good. Thank you.</p>
Summary of issues raised in Question 2		
<ul style="list-style-type: none"> ▪ Easier for people to learn with a project to learn on ▪ My project has real meaning to me and I can add learning around that ▪ If people don't have a project, it is difficult for them ▪ If lecturer has to 'cuff' a scenario, it is difficult for students ▪ Case study method ▪ Learning that they can actually use ▪ Preferable to bring their own project 	<ul style="list-style-type: none"> ▪ I need a learning environment that is conducive to learning ▪ I choose external studies ▪ It must meet my needs – when, how, why ▪ I'm in control of what I do, when I do it, how I do it ▪ I need easily accessible information ▪ I get on the email – it's not a hard process – it is easy ▪ Completed my undergraduate degree as flexible learning ▪ At the end there was less time for face to face 	<ul style="list-style-type: none"> ▪ Undergraduate courses – these are formative years ▪ Graduates have been very popular with employers...are very competent ▪ Environment for postgraduate and master's (students) should be a lot more self-referential and autonomous learning and self assessment and peer assessment ▪ Autonomous learning is a very important concept in our approach (and) mentoring and constant feedback

<ul style="list-style-type: none"> ▪ Have prepared project as fall-back ▪ Project that would happen in department ▪ People could see from their vocational experience and the scenario ▪ Location of learning comes down to the preference of student ▪ Some like being given material and left alone ▪ Others can't cope with that ▪ Worst case is if someone chooses distance when they need face to face ▪ 	<ul style="list-style-type: none"> ▪ Face to face was still important ▪ I didn't have the level of accountabilities and responsibilities that I now have ▪ Now I need...education when I want it, how I want it ▪ I need to have (flexibility) ▪ I looked at QUT...but I didn't like the university...their approach ▪ After taking on external studies, you can see the value of not having to go to class ▪ If I have to go to class...it's not by my time, it's...by the university time ▪ I can start my studies when I get home...on weekends...take it on holidays ▪ (QUT) cost a lot more ▪ if they didn't get (minimum number of students) there would be no class, so technically I was paying for face to face, but...you might not have a classroom ▪ they came across as 'big brother' ▪ they came across as the top university and you just fall into line ▪ that didn't sit well with me – not at all ▪ administrative side...were not interested in the client ▪ they were interested in...dollars ▪ this is what you do – fall into line ▪ USQ is very high on their customer service ▪ You're a student, but you're a client, and that's a big plus 	<ul style="list-style-type: none"> ▪ People come to university... to acquire a new mindset ▪ They...are encouraged to learn...learning skills, self development skills, self referential skills ▪ Our mission is to challenge the students ▪ Make sure they have the competencies needed to cope with all the change and turbulence which goes on in the real world and to constantly self assess ▪ Adaptability, self management, team management, organisation management are core competencies that they have to pick up ▪ When we assess...we are looking for...independent thinking and meta-cognitive abilities...refreshing perspectives ▪ Looking for someone who can prove to us...they can rise above all the complexities ▪ (for) autonomous learning, people need to be able to understand where they need to improve themselves along three dimensions – technical dimension (of the base discipline), managerial capabilities, socio-cultural capabilities and leadership ▪ people have to know how to assess themselves in terms of performance...in all three areas...and take part in activities that will address the deficiencies ▪ culture...in industry at present is unhelpful ▪ experienced project managers think they know it all ▪ resistance to learning is a big issue in this industry ▪ example (is) a very senior project manager who goes to a job (and does not focus) on the strategic side of projects ▪ culture has to be changed ▪ a proper professional person (must) understand ...his or her own deficiencies...and make sure that they take action to address those deficiencies ▪ autonomous learning is about a readiness to accept that one's own knowledge and competencies need constant updating...to be able to...systematically approach a task or an activity
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Appendix 6: Example of initial coding of interviews carried out in relation to project management education

Initial categories were identified from analysis of the transcripts. Extracts from the transcripts were then collated under those category headings, and these were then used to refine questions for subsequent interviews.

Coding of interview data for analysis

Coding of interviews carried out in relation to project management education (PART ONLY)

Code	Categories /subcategories /properties	Keywords and phrases	
EDU	EDUCATION ENVIRONMENT		
EDU-att-pri	Student attributes -prior	know that they don't know things, don't know and understand importance of techniques and principles, difference and diversity of students at residential school, come to uni with closed minds, vocational relevance, some students think that they know it all/universities are theoretical/not relevant, people come with a lot of scepticism and cynicism, (lack of) hands-on... knowledge of project management tools and techniques, mature age, might have come out of a functional department of some organisation, don't have much knowledge of the specialist PMI type methodologies, we want to raise their knowledge to the appropriate level of the course, good - knowledge, skills and experience in general management disciplines, tool knowledge would generally be weak, haven't had any real life experience, doesn't really have a very good feel for...project management best practice.	<p>Comment [FoB1]: Environment in which the education process occurs</p> <p>Comment [FoB2]: Start at the beginning. What is the nature of the student considering PM education?</p>
EDU-att-pos	Student attributes – post education	graduates popular with employers, graduates are competent, leave uni with more open minded approach and understanding of where they are own weaknesses, when students leave they are a different person, discover that there's a lot to learn/don't know it all/need to learn for all of our lives, some understanding of each of the discipline areas, understand the basic methodologies, enhance or give them the basic project management skills, try and develop their skills in each level, there is a gap in terms...of using tools,	<p>Comment [FoB3]: What is the nature of the students after undergoing educational process?</p>
EDU-obj-stu	Student objectives	are in the eye of the beholder, satisfying, self improvement, practical training, balanced view, up to date information, skills, knowledge, students want to acquire a new mindset, they want to know more, they have a need for knowledge, they want to learn 'the right way', need to know what is really out there, difference between what you know and what is available, some students are after piece of paper for the recognition, students come to university to really develop themselves, I was looking for 'best practice', I would like educational process to provide examples or evidence of best practice, if I want excellence in learning I'd want to know that I've been given the best possible information/knowledge/skills that are available, I want to add to my toolkit, the most important thing in learning more is to apply it in the workplace, Qualifications/ information/ knowledge/ lifelong learning - accreditation later, retention of knowledge is what I am after,	<p>Comment [FoB4]: What are the objectives of the student as they consider uni education?</p>
EDU-mot	Motivation	Boss, government, qualification, lifelong learning, students press-ganged into education by employers, some students so keen that they put their hand into own pockets, vocational need, some people need PM as an adjunct to main job, what I looked at was the cost/type of delivery/content/flexibility/assessment,	<p>Comment [FoB5]: What are the motivating factors that make students consider uni education?</p>

Appendix 7: Example (part only) of descriptive statistical analysis of survey - Part A.1 Background

Statistics										
		Gender	Age bracket	English native speaker	English language reading skills	English language writing skills	English language spoken skills	Family commitments affecting studies	Work commitments affecting studies	Nature of disability affecting studies
N	Valid	394	397	396	395	395	393	395	393	374
	Missing	3	0	1	2	2	4	2	4	23
Mean		1.69	2.88	1.38	3.76	3.64	3.69	1.62	1.29	1.26
Median		2.00	3.00	1.00	4.00	4.00	4.00	2.00	1.00	1.00
Std. Deviation		.465	.857	.486	.490	.599	.567	.487	.456	.957
Skewness		-.801	.336	.502	-1.891	-1.437	-1.753	-.486	.915	3.586
Std. Error of Skewness		.123	.122	.123	.123	.123	.123	.123	.123	.126
Kurtosis		-1.365	-.517	-1.757	2.789	.991	2.494	-1.772	-1.169	11.124
Std. Error of Kurtosis		.245	.244	.245	.245	.245	.246	.245	.246	.252
Minimum		1	1	1	2	2	1	1	1	1
Maximum		2	5	2	4	4	4	2	2	5

(Source: extract from report generated by SPSS software program using data from Part A of the survey)

Appendix 8: Summary of findings from statistical analysis of survey responses

SUMMARY ANALYSIS OF DATA FROM SURVEY

Tables below show details of responses to each statement plus ranking

Cells in grey identify the top 10 statements based on score (out of 5)

Cells in purple identify the bottom 10 statements based on score (out of 5)

Cells in light blue show statements that were presented as negative statements

For each variable, a summary value is provided together with its ranking from 1-62
Statement

Table 1

SECTION B.1 TO B.6 OF SURVEY

Surv. Statement No.	Variable No.	Variable	Mean- disagree (1 to 5)	Rank (1 to 62)	Mean- import (1 to 5)	Rank (1 to 62)	SD
			1	2	3	4	6
b1_1	47	Family-friendly USQ study arrangements - agree/disagree	2.56	15			0.95
	48	Family-friendly USQ study arrangements - importance			3.71	39	1.09
b1_2	49	Work-friendly USQ study arrangements - agree/disagree	2.48	18			1.04
	50	Work-friendly USQ study arrangements - importance			3.97	23	0.94
b1_3	51	Disability-friendly USQ study arrangements - agree/disagree	2.82	5			0.76
	52	Disability-friendly USQ study arrangements - importance			3.16	58	1.41
b1_4	53	Sickness/injury-friendly USQ study arrangements - agree/disagree	2.65	11			0.85
	54	Sickness/injury-friendly USQ study arrangements - importance			3.43	49	1.26
b1_5	55	Consideration of student sense of isolation in DE mode - agree/disagree	2.68	9			1.02
	56	Consideration of student sense of isolation in DE mode - importance			3.38	50	1.13
b1_6	57	Ability to continue full-time employment during studies - agree/disagree	1.99	47			0.92
	58	Ability to continue full-time employment during studies - importance			4.28	2	0.89

b2_1	59	Studies focused on gaining postgraduate qualification - agree/disagree	1.63	61			0.67
	60	Studies focused on gaining postgraduate qualification - importance			4.08	16	0.82
b2_2	61	Studies focused on improved chance of promotion - agree/disagree	2.22	35			0.90
	62	Studies focused on improved chance of promotion - importance			3.64	42	1.06
b2_3	63	Studies focused on improved chance of gaining better job - agree/disagree	1.90	52			0.79
	64	Studies focused on improved chance of gaining better job - importance			3.86	30	1.01
b2_4	65	Studies have provided a sense of pride and self satisfaction - agree/disagree	1.55	62			0.65
	66	Studies have provided a sense of pride and self satisfaction - importance			4.20	7	0.83
b2_5	67	Studies have helped to develop communication skills - agree/disagree	1.99	49			0.80
	68	Studies have helped to develop communication skills - importance			4.01	22	0.77
b2_6	69	Studies have helped to develop critical/creative thinking skills - agree/disagree	1.77	60			0.70
	70	Studies have helped to develop critical/creative thinking skills - importance			4.18	9	0.70
b2_7	71	Studies have helped to develop social interaction skills - agree/disagree	2.55	16			1.06
	72	Studies have helped to develop social interaction skills - importance			3.61	44	0.98
b2_8	73	Studies have helped to develop independent/lifelong learning skills - agree/disagree	1.78	59			0.71
	74	Studies have helped to develop independent/lifelong learning skills - importance			4.01	21	0.83
b2_9	75	Studies have helped to develop a sense of ethical standards - agree/disagree	2.23	34			0.88
	76	Studies have helped to develop a sense of ethical standards - importance			3.71	38	0.99
b2_10	77	Studies have helped to develop a respect for social justice - agree/disagree	2.46	19			0.90
	78	Studies have helped to develop a respect for social justice - importance			3.44	48	1.03
b2_11	79	Studies have helped to develop a respect for global issues - agree/disagree	2.19	37			0.85
	80	Studies have helped to develop a respect for global issues - importance			3.65	41	0.98
b2_12	81	Studies have helped to develop skills across disciplines - agree/disagree	1.84	55			0.75
	82	Studies have helped to develop skills across disciplines - importance			4.03	20	0.79
b2_13	83	Studies have helped to develop indepth knowledge/skills in field of study - agree/disagree	1.80	57			0.75
	84	Studies have helped to develop indepth knowledge/skills in field of study - importance			4.19	8	0.73
b3_1	85	USQ teaching staff have appropriate knowledge/teaching skills - agree/disagree	1.96	50			0.82
	86	USQ teaching staff have appropriate knowledge/teaching skills - importance			4.51	1	0.66
b3_2	87	USQ studies enabled sufficient contact with fellow students - agree/disagree	2.44	20			0.95
	88	USQ studies enabled sufficient contact with fellow students - importance			3.44	47	0.99
b3_3	89	USQ enabled access to experienced people from industry - agree/disagree	3.10	3			1.04
	90	USQ enabled access to experienced people from industry - importance			3.61	45	0.93
b3_4	91	USQ studies made allowances for changing family circumstances - agree/disagree	2.60	13			1.02
	92	USQ studies made allowances for changing family circumstances - importance			3.75	34	1.03

b3_5	93	USQ studies made allowances for changing work circumstances - agree/disagree	2.59	14			1.03
	94	USQ studies made allowances for changing work circumstances - importance			3.83	31	1.02
b3_6	95	USQ studies provided pastoral support for personal problems - agree/disagree	3.03	4			0.86
	96	USQ studies provided pastoral support for personal problems - importance			2.98	61	1.24
b3_7	97	USQ studies disadvantaged you through class numbers - agree/disagree	2.40	23			1.02
	98	USQ studies disadvantaged you through class numbers - importance			2.84	62	1.21
b4_1	99	USQ has appropriate requirements for academic entry - agree/disagree	2.11	44			0.74
	100	USQ has appropriate requirements for academic entry - importance			3.83	32	0.82
b4_2	101	USQ provides adequate study pathways to achieve learning objectives - agree/disagree	1.99	46			0.71
	102	USQ provides adequate study pathways to achieve learning objectives - importance			4.04	19	0.75
b4_3	103	USQ provides adequate choice of study modes for each course - agree/disagree	1.83	56			0.72
	104	USQ provides adequate choice of study modes for each course - importance			4.09	14	0.83
b4_4	105	USQ allows you to set the pace at which you carry out your studies - agree/disagree	2.11	43			0.98
	106	USQ allows you to set the pace at which you carry out your studies - importance			4.06	17	0.88
b4_5	107	USQ has been sensitive to cultural issues that affect your studies - agree/disagree	2.78	7			0.79
	108	USQ has been sensitive to cultural issues that affect your studies - importance			3.02	60	1.24
b4_6	109	USQ has imposed restrictive rules and regulations - agree/disagree	2.65	10			1.05
	110	USQ has imposed restrictive rules and regulations - importance			3.22	55	1.15
b4_7	111	USQ has been fair in its interpretation of rules and regulations - agree/disagree	2.35	26			0.85
	112	USQ has been fair in its interpretation of rules and regulations - importance			3.73	37	0.95
b4_8	113	Your studies have set achievable workloads - agree/disagree	2.14	41			0.77
	114	Your studies have set achievable workloads - importance			4.11	13	0.67
b4_9	115	Your studies have had consistent requirements across courses - agree/disagree	2.31	27			0.96
	116	Your studies have had consistent requirements across courses - importance			3.90	29	0.75
b4_10	117	The requirement for prior work experience has disadvantaged you - agree/disagree	2.38	24			0.91
	118	The requirement for prior work experience has disadvantaged you - importance			3.19	56	1.03
b4_11	119	Your studies have caused you to incur unnecessary costs - agree/disagree	2.40	22			1.02
	120	Your studies have caused you to incur unnecessary costs - importance			3.30	51	1.14
b5_1	121	USQ has provided adequate study/support materials in print form - agree/disagree	1.99	48			0.85
	122	USQ has provided adequate study/support materials in print form - importance			4.20	6	0.84
b5_2	123	USQ has provided adequate study/support materials online - agree/disagree	1.88	53			0.71
	124	USQ has provided adequate study/support materials online - importance			4.24	4	0.72
b5_3	125	USQ has used user-friendly technology for online access - agree/disagree	2.13	42			0.93
	126	USQ has used user-friendly technology for online access - importance			4.27	3	0.71

b5_4	127	USQ has provided adequate study/support materials on CD-ROM - agree/disagree	2.31	28			0.93
	128	USQ has provided adequate study/support materials on CD-ROM - importance			3.80	33	1.05
b5_5	129	Your studies required too much reading time for study materials - agree/disagree	3.12	2			1.10
	130	Your studies required too much reading time for study materials - importance			3.63	43	0.86
b5_6	131	Your studies required English language reading skills that are too high - agree/disagree	2.17	39			0.96
	132	Your studies required English language reading skills that are too high - importance			3.22	54	1.13
b5_7	133	Your studies required English language writing skills that are too high - agree/disagree	2.27	32			1.09
	134	Your studies required English language writing skills that are too high - importance			3.29	53	1.16
b5_8	135	Your studies required English language speaking skills that are too high - agree/disagree	2.08	45			0.91
	136	Your studies required English language speaking skills that are too high - importance			3.04	59	1.20
b5_9	137	Your studies focused too much on theory and not on practice - agree/disagree	2.74	8			1.05
	138	Your studies focused too much on theory and not on practice - importance			3.65	40	0.93
b5_10	139	Your studies used real-life situations from your workplace for learning - agree/disagree	2.18	38			0.89
	140	Your studies used real-life situations from your workplace for learning - importance			3.94	25	0.75
b5_11	141	Your studies required too much use of computers/other technology - agree/disagree	2.29	29			1.00
	142	Your studies required too much use of computers/other technology - importance			3.29	52	1.10
b5_12	143	Your studies used group/team work as an effective way of learning - agree/disagree	3.34	1			1.03
	144	Your studies used group/team work as an effective way of learning - importance			3.18	57	1.17
b5_13	145	Your studies set the appropriate amount of assessment for each course - agree/disagree	2.28	31			0.83
	146	Your studies set the appropriate amount of assessment for each course - importance			3.94	24	0.81
b5_14	147	Your studies set the appropriate type of assessment for course objectives - agree/disagree	2.15	40			0.80
	148	Your studies set the appropriate type of assessment for course objectives - importance			4.06	18	0.77
b5_15	149	Study assessment allowed you to demonstrate your skills/knowledge - agree/disagree	2.20	36			0.86
	150	Study assessment allowed you to demonstrate your skills/knowledge - importance			4.09	15	0.76
b6_1	151	USQ made clear the objectives of the overall program - agree/disagree	1.85	54			0.59
	152	USQ made clear the objectives of the overall program - importance			4.17	10	0.71
b6_2	153	USQ made clear the objectives of each course - agree/disagree	1.79	58			0.59
	154	USQ made clear the objectives of each course - importance			4.21	5	0.67
b6_3	155	USQ made clear what is expected of students - agree/disagree	1.91	51			0.65
	156	USQ made clear what is expected of students - importance			4.15	11	0.70
b6_4	157	USQ provided guidance/assistance with development of study skills - agree/disagree	2.29	30			0.85
	158	USQ provided guidance/assistance with development of study skills - importance			3.91	27	0.85
b6_5	159	USQ provided guidance/assistance for studying via distance education - agree/disagree	2.35	25			0.92
	160	USQ provided guidance/assistance for studying via distance education - importance			3.91	28	0.88

b6_6	161	USQ made clear what you can expect from teaching staff - agree/disagree	2.53	17			0.99
	162	USQ made clear what you can expect from teaching staff - importance			3.93	26	0.83
b6_7	163	USQ made clear what you can expect from support staff - agree/disagree	2.62	12			0.97
	164	USQ made clear what you can expect from support staff - importance			3.74	36	0.89
b6_8	165	USQ met all of its obligations and did everything it said it would - agree/disagree	2.24	33			0.91
	166	USQ met all of its obligations and did everything it said it would - importance			4.11	12	0.75
b6_9	167	Studies encouraged you to learn from knowledge/experience of other students - agree/disagree	2.82	6			1.06
	168	Studies encouraged you to learn from knowledge/experience of other students - importance			3.57	46	1.00
b6_10	169	Studies encouraged you to learn from knowledge/experience of work colleagues - agree/disagree	2.44	21			0.96
	170	Studies encouraged you to learn from knowledge/experience of work colleagues - importance			3.75	35	0.89

Appendix 9: Ranking of statements based on level of disturbance

		Statement	Mean-disagree	Rank	Mean-imp	Rank	SD
SECTION B.1 TO B.6 OF SURVEY							
Surv. Statement No.	Variable No.	RANKING OF STATEMENTS BY CATEGORY					
			1	2	3	4	
Table 2		TOP TEN STATEMENTS SHOWING HIGHEST LEVELS OF DISTURBANCE (Note the disparity between high level of disturbance and low level of importance)					
b5_12	143	Your studies used group/team work as an effective way of learning - agree/disagree	3.34	1	3.18	57	1.03
b5_5	129	Your studies required too much reading time for study materials - agree/disagree	3.12	2	3.63	43	1.10
b3_3	89	USQ enabled access to experienced people from industry - agree/disagree	3.10	3	3.61	45	1.04
b3_6	95	USQ studies provided pastoral support for personal problems - agree/disagree	3.03	4	2.98	61	0.86
b1_3	51	Disability-friendly USQ study arrangements - agree/disagree	2.82	5	3.16	58	0.76
b6_9	167	Studies encouraged you to learn from knowledge/experience of other students - agree/disagree	2.82	6	3.57	46	1.06
b4_5	107	USQ has been sensitive to cultural issues that affect your studies - agree/disagree	2.78	7	3.02	60	0.79
b5_9	137	Your studies focused too much on theory and not on practice - agree/disagree	2.74	8	3.65	40	1.05
b1_5	55	Consideration of student sense of isolation in DE mode - agree/disagree	2.68	9	3.38	50	1.02
b4_6	109	USQ has imposed restrictive rules and regulations - agree/disagree	2.65	10	3.22	55	2.65

Appendix 10: Ranking of statements based on level of importance

Table 3		TOP TEN STATEMENTS FOR WHICH PARTICIPANTS RATED TOPIC MOST IMPORTANT				
		Note the disparity between high level of importance and low level of disturbance				
b3_1	86	USQ teaching staff have appropriate knowledge/teaching skills - importance	1.96	50	4.51	1 0.66
b1_6	58	Ability to continue full-time employment during studies - importance	1.99	47	4.28	2 0.89
b5_3	126	USQ has used user-friendly technology for online access - importance	2.13	42	4.27	3 0.71
b5_2	124	USQ has provided adequate study/support materials online - importance	1.88	53	4.24	4 0.72
b6_2	154	USQ made clear the objectives of each course - importance	1.79	58	4.21	5 0.67
b5_1	122	USQ has provided adequate study/support materials in print form - importance	1.99	48	4.20	6 0.84
b2_4	66	Studies have provided a sense of pride and self satisfaction - importance	1.55	62	4.20	7 0.83
b2_13	84	Studies have helped to develop indepth knowledge/skills in field of study - importance	1.80	57	4.19	8 0.73
b2_6	70	Studies have helped to develop critical/creative thinking skills - importance	1.77	60	4.18	9 0.70
b6_1	152	USQ made clear the objectives of the overall program - importance	1.85	54	4.17	10 0.71

Appendix 11: Full list of suggestions generated by focus group members for Strands
A to F

STRAND A – THE LEARNING INSTITUTION

No.	Suggestion	Score	Rank
A1	• Pedagogically and procedurally sound policies and implement them consistently	18	1
A2	• Implement strategies to improve learning and teaching skills of staff through recruitment and development and promotion	9	2
A3	• Emphasise human aspects of the institution	8	3
A4	• Bring learning and teaching to the centre e.g. academic workloads that reflect reality. We need academic staff to teach more in time, more in terms of developing skills, creating it is as a prestigious occupation	8	3
A5	• We need to take a developmental approach to learning as opposed to a deficit approach	8	3
A6	• Institutional process to look at quality of courses and their content – outdated material, quantity of material including peer review	7	6
A7	• Create a community of practice type mentality and provide environment for collaborative communication at a program level	7	6
A8	• We need to maintain an institutional relationship with students from their first enquiry through to their membership of the alumni	7	6
A9	• More strategic student support, better planned, better resourced, and better implemented	7	6
A10	• Create a program based website for news, current events, job opportunities, common resources	5	10
A11	• In implementing policy leave room for justice and mercy	4	11
A12	• Recognize duty of care – support students if accepted into program	3	12
A13	• Benchmark and network with learning and teaching best practice outside of USQ	3	12
A14	• Provide easy access to our services, easy to find, easy to use, ‘one-stop shopping’	3	12
A15	• USQ needs to develop service standards, e.g., with regard to response to student enquiries	2	15
A16	• Develop academic and general staff so they can interact as effectively as possible with students	2	15
A17	• More integrated cross institutional approaches to orientation, transition, retention and progression	2	15
A18	• Clear articulation from the institutional perspective of what flexibility means in policies and procedures e.g. pedagogy, administrative procedure, marketing, entry,	1	18
A19	• Allow alumni to play an increased role in program development	1	18
A20	• Greater information to students about what doing degree entails – cost and time commitment	0	20
A21	• Improve consistency with regards to extensions and withdrawals and deferment without penalty	0	20
A22	• Provide staff with opportunity to interact more with students	0	20
A23	• Institution must interrogate its assumptions about what students want and what students need.	0	20
A24	• Communicate clearly with students our expectations and our reasons for decisions – have a student charter	0	20

A25	• Semesters of equal length	0	20
A26	• Greater institutional recognition and support of our Graduate Certificate in Teaching and Learning which has been developed to support our academic staff	0	20
A27	• A single point of contact for student problems within each faculty	0	20
A28	• A review of the communication to students about enrolment dates and consequences of late enrolment	0	20
A29	• Better mechanisms for identifying students at risk	0	20
A30	• Provide value for money and communicate what the value is	0	20
A31	• Foster a mentor system for inexperienced (or students who haven't studied for some time) pairing them with experienced students – could be linked with assessment item	0	20
A32	• Greater powers to HODs to address poor learning and teaching performance	0	20
A33	• Communication at least once a week from course leader and the program director with students	0	20
A34	• Sharing success and non success stories by graduates and/or alumni	0	20
A35	• More attention given to exiting students' graduate qualities	0	20

STRAND B - ACADEMIC FACILITATOR

No.	Suggestion	Score	Rank
B1	<ul style="list-style-type: none"> • Staff development in facilitation skills, elearning and manage discussion groups. • Professional development for staff, workshops with role plays, web resources (professional development), online discussion. • Facilitators to study as an external student in unfamiliar area. • All online facilitators should do an online course with an excellent facilitator. • Provision of a facilitating mentor for courses leaders. • Academic staff require skills and training to support dealing with international student cohorts. • Mandate training 	15	1
B2	<ul style="list-style-type: none"> • Provide rewards, encourage good practice through rewards. • Review reward structure – what supports good teaching? • Financial recognition 	15	1
B3	<ul style="list-style-type: none"> • Realign the budget to emphasise teaching much more 	13	3
B4	<ul style="list-style-type: none"> • Staff priorities need to be aligned with university priorities – for example, the primary role of distance education and the ongoing nature of distance education 	9	4
B5	<ul style="list-style-type: none"> • Service agreement – USQ level or faculty level or program level – defining level of service of facilitators. • Mandating some training – quality of service – depends on the role of the academic. • Let students know how often you visit the discussion forum so they're not left wondering 	7	5
B6	<ul style="list-style-type: none"> • Find mechanisms to engage the unconverted course leaders and review USQ and faculty policies 	4	6
B7	<ul style="list-style-type: none"> • Community of practice, meeting of the examiners of a program so they share ideas – current workloads do not allow to meet at the program level – providing consistent approach and level of service. • Learning communities for facilitators to share ideas and support each other 	3	7
B8	<ul style="list-style-type: none"> • Industry experience – recognise we need to have people who have industry experience. recognition of staff workplace skills – 	3	7
B9	<ul style="list-style-type: none"> • Improve our feedback system from students 	3	7
B10	<ul style="list-style-type: none"> • LTSU and others to advise on design and implementation of online courses – instructional design 	2	10
B11	<ul style="list-style-type: none"> • Senior management to become familiar with teaching requirements for distance education - staff turnover 	1	11
B12	<ul style="list-style-type: none"> • The idea of a mentor allocation duration of the program 	0	12
B13	<ul style="list-style-type: none"> • Use of audio recordings or video on the discussion forum – putting face to the experience – short 5–10 minutes 	0	12
B14	<ul style="list-style-type: none"> • Unrealistic expectation of work requirements – review workloads involved in course facilitation 	0	12
B15	<ul style="list-style-type: none"> • Carry out research into the role of academic facilitators 	0	12
B16	<ul style="list-style-type: none"> • Research to inform policy practice workload allocation and appropriate resourcing 	0	12
B17	<ul style="list-style-type: none"> • Where practical the best facilitators should be put in the core courses - retention 	0	12
B18	<ul style="list-style-type: none"> • Reinstate res schools and teletutes 	0	12

B19	<ul style="list-style-type: none"> Assessment – facilitators put more emphasis on developmental side of assessment – training in assessment processes 	0	12
B20	<ul style="list-style-type: none"> Facilitators have mentors they don't know and mentors were enrolled as students in order to sample and provide feedback – secret shopper 	0	12
B21	<ul style="list-style-type: none"> Best practice in running discussion groups to be disseminated to others in effective ways 	0	12
B22	<ul style="list-style-type: none"> Look for natural expertise – personal attributes and professional experience in the selection process – diversity in course leadership attributes 	0	12
B23	<ul style="list-style-type: none"> Recognise students' workplace experience 	0	12
B24	<ul style="list-style-type: none"> Need to alert students to online and distance education experiences – learning style, pre-enrolment questionnaire, pre-enrolment evaluation 	0	12

STRAND C - THE PEER GROUP

No.	Suggestion	Score	Rank
C1	<ul style="list-style-type: none"> Learning circles - contact details of other students available to other students - one or one contact or groups. Learning circles - not enough encouragement for students to use them, lack of understanding, who to contact, how to create 	12	1
C2	<ul style="list-style-type: none"> Explain to the students the value of social learning 	11	2
C3	<ul style="list-style-type: none"> Create an interactive environment - Second Life - one on one or group format. Second Life - online simulation series of simulation predefined by the course leader - synchronous activity - able to see each other creating a simulation in a virtual environment 	9	3
C4	<ul style="list-style-type: none"> Create a social space to obtain academic and non academic services - course communities and program communities 	9	3
C5	<ul style="list-style-type: none"> Allow guest speakers on the discussion board - industry involvement 	9	3
C6	<ul style="list-style-type: none"> Distributed group - course or program - find a way to teach students skills in social interaction in an online environment 	9	3
C7	<ul style="list-style-type: none"> Lecturer to participate in discussion boards - academic participation. Course leader to act as role model to students for use of discussion boards or any other tools. 	7	7
C8	<ul style="list-style-type: none"> Social web conferencing tools - Illuminate, Camtasia 	5	8
C9	<ul style="list-style-type: none"> Time-poor students - tool use optional - poor Internet connections etc 	5	8
C10	<ul style="list-style-type: none"> Think about the role of the lurker 	3	10
C11	<ul style="list-style-type: none"> Encourage regional face-to-face study groups promoted by the lecturer 	3	10
C12	<ul style="list-style-type: none"> Optional non-defined group and social activities 	2	12
C13	<ul style="list-style-type: none"> Facilitate a way so students can create their own discussion board 	2	12
C14	<ul style="list-style-type: none"> Technological know-how - students not always aware 	2	12
C15	<ul style="list-style-type: none"> Study tours, industry 	1	15
C16	<ul style="list-style-type: none"> Understand the difference between interaction and collaboration 	1	15
C17	<ul style="list-style-type: none"> Teleconferences, tutorials run by the lecturer 	0	17
C18	<ul style="list-style-type: none"> Discussion groups facilitated discussion forum 	0	17
C19	<ul style="list-style-type: none"> Develop Wiki-type group assessments 	0	17
C20	<ul style="list-style-type: none"> Residential schools – on-campus and off-campus 	0	17
C21	<ul style="list-style-type: none"> Students marking other students' assignments 	0	17

STRAND D - THE WORKPLACE

No.	Suggestion	Score	Rank
D1	<ul style="list-style-type: none"> • Make assessment more relevant to student workplace. • Design learning activities and assessment that value add to the workplace – workplace-focused assessment 	16	1
D2	<ul style="list-style-type: none"> • Develop more flexible academic calendar – flexible start and finish and assessment 	13	2
D3	<ul style="list-style-type: none"> • Review of the lack of 24 x 7 support and its implications for students' ability to cope with their studies and work 	11	3
D4	<ul style="list-style-type: none"> • Make clear the level of commitment to study and warn students who are at risk – work life balance 	8	4
D5	<ul style="list-style-type: none"> • Examiners to value student work experience – recognition of workplace learning and use in assignments 	7	5
D6	<ul style="list-style-type: none"> • Faculty writes to employer of each student to thank them for their support 	6	6
D7	<ul style="list-style-type: none"> • Longer semesters – students are time poor – decrease the size of courses to allow for external work commitments 	4	7
D8	<ul style="list-style-type: none"> • Standard assignment extension policy in program – consistent assignment policy 	4	7
D9	<ul style="list-style-type: none"> • University to develop models that companies can use to support students – publish in USQ brochure 	3	9
D10	<ul style="list-style-type: none"> • Negotiate with employers particular larger ones to provide a brochure, pamphlet to encourage workplaces to be study friendly 	2	10
D11	<ul style="list-style-type: none"> • Flexible course design incorporate workplace experience of the students for the benefit of other students 	1	11
D12	<ul style="list-style-type: none"> • Obtain an understanding of student workplace requirements at the beginning of a course 	0	12
D13	<ul style="list-style-type: none"> • Define if work experience is necessary to undertake a program 	0	12

STRAND E – THE LEARNING RESOURCES

No.	Suggestion	Score	Rank
E1	<ul style="list-style-type: none"> Links learning resources to activity – reason to use the resources – stimulation 	12	1
E2	<ul style="list-style-type: none"> Provide case studies, creating resources using student body - interview or video production – allows PG students to deconstruct and analyse real life activities. More real life real work situations, discussions, case studies. 	11	2
E3	<ul style="list-style-type: none"> Learning resources need to be varied 	10	3
E4	<ul style="list-style-type: none"> In choosing from a range of resources to keep up with student contexts – understanding student circumstances. Greater flexibility in resource delivery – student can choose range of resources on an individual basis depending on student circumstances. 	10	3
E5	<ul style="list-style-type: none"> Create more program focus to courses for learning materials – build in common resources 	9	5
E6	<ul style="list-style-type: none"> Quality – much more rigorous of the review of resources - up-to-date references 	8	6
E7	<ul style="list-style-type: none"> Interrogate the assumptions that we make about what students can do – entry requirements – adapt the materials accordingly – grading materials 	8	6
E8	<ul style="list-style-type: none"> More emphasis to get students to identify their own resources – less ‘spoonfeeding’ of learning resources – greater expectation of PG students to identify and evaluate and effectively utilize their own learning resources 	7	8
E9	<ul style="list-style-type: none"> Ensure course teams are genuinely constructed and used – e.g. ensure moderator has an active role in sharing of ideas, quality of materials, peer review 	6	9
E10	<ul style="list-style-type: none"> Emphasis on quality of resources rather than quantity 	5	10
E11	<ul style="list-style-type: none"> Provide alternative representations of course key concepts of using current multimedia technologies (learning objects) 	5	10
E12	<ul style="list-style-type: none"> Recognize that pedagogy is at least important as the discipline based content 	5	10
E13	<ul style="list-style-type: none"> Variable resources – strong support for provision of baseline materials plus electronic media 	4	13
E14	<ul style="list-style-type: none"> Use a delivery channel that is congruent with the learning materials - 	4	13
E15	<ul style="list-style-type: none"> Keep up to date with opportunities provided by delivery platforms – awareness 	3	15
E16	<ul style="list-style-type: none"> View resources as a dynamic rather than a static thing 	3	15
E17	<ul style="list-style-type: none"> Greater audio content 	2	17
E18	<ul style="list-style-type: none"> Resources that engage the students 	2	17
E19	<ul style="list-style-type: none"> Emphasise students need to be aware they have choices – all study material may not be essential to learning process. 	2	17
E20	<ul style="list-style-type: none"> Relevance and recency for both ‘generation Y’ and adult learners 	1	20
E21	<ul style="list-style-type: none"> Resources must cater for individual student learning objectives creating opportunities for students to pursue individual learning objectives in an ideal world 	1	20
E22	<ul style="list-style-type: none"> Academic is to maintain discipline currency 	1	20
E23	<ul style="list-style-type: none"> Emphasise the role of all human beings as learning resources 	1	20
E24	<ul style="list-style-type: none"> Sprintprint textbooks – compilation of chapters from various books for different themes within course 	0	24
E25	<ul style="list-style-type: none"> Grade the resources relative to the level of the course 	0	24
E26	<ul style="list-style-type: none"> Judicial use of a variety of modes – clearer in advice to students in how to use resources 	0	24

E27	• Value of using text books – cost and relevance – are they necessary?	0	24
E28	• Create links between the materials and examples of best practice	0	24
E29	• Students need to be provided with the tools to do their own research	0	24
E30	• University policies don't recognize collaborative work as opposed to individual work – focus is on the individual rather than a group	0	24
E31	• Provide access to resources that build skills	0	24
E32	• Provide electronic repositories for dynamically generated resources which could have multiple uses.	0	24
E33	• Choice of resources plays a role in course design to limit the opportunities for collusion and plagiarism	0	24

STRAND F - ASSESSMENT

No.	Suggestion	Score	Rank
F1	<ul style="list-style-type: none"> • Incorporate workplace projects into student assessment. • Assessment related to and drawing on work context. • Assessment should be open ended and based on real world cases 	18	1
F2	<ul style="list-style-type: none"> • Improve the quality and timing of feedback. Timely and developmental feedback 	15	2
F3	<ul style="list-style-type: none"> • Realistic assessment load appropriate for measuring student achievement of learning objectives 	8	3
F4	<ul style="list-style-type: none"> • Assessment to encourage student learning at an appropriate level – critical thinking 	8	3
F5	<ul style="list-style-type: none"> • Assessment aligned with program/course objectives and learning activities 	5	5
F6	<ul style="list-style-type: none"> • Expectations clear and consistent across program offer 	5	5
F7	<ul style="list-style-type: none"> • Investigate alternative assessment techniques possibility of using negotiated assessment instruments in different students within the same course 	4	7
F8	<ul style="list-style-type: none"> • Encourage a more developmental approach to assessment by course examiners – formative 	4	7
F9	<ul style="list-style-type: none"> • Provide expertise/mentorship to course leaders in the development of appropriate assessment items - 	2	9
F10	<ul style="list-style-type: none"> • Consistent assignment extension policies including flexibility 	2	9
F11	<ul style="list-style-type: none"> • Lighter assessment loads in beginning courses and cumulative assessment in a capstone 	2	9
F12	<ul style="list-style-type: none"> • Increase staff workload allocation for assessment 	1	12
F13	<ul style="list-style-type: none"> • Reduce the dependence on exams 	1	12
F14	<ul style="list-style-type: none"> • Find some way to improve the university pass rates 	0	14
F15	<ul style="list-style-type: none"> • Commence each piece of assessment with a preamble to clarify the purpose of the assessment 	0	14
F16	<ul style="list-style-type: none"> • Linking assessment from earlier courses across the program 	0	14
F17	<ul style="list-style-type: none"> • Provide exemplars of past student assignments to explore diverse/interesting possibilities 	0	14

Appendix 12: Glossary of acronyms and abbreviations

Acronym / abbreviation	Full description of acronym or abbreviation
ACODE	Australian Council on Open and Distance and E-Learning
AIPM	Australian Institute of Project Management
AT	Activity Theory
BOK	Body of knowledge
CAE	College of Advanced Education
CD	Compact disc
CDEI	Cross-divisional efficiency initiative
CSHE	Centre for the Study for Higher Education
DDIAE	Darling Downs Institute of Advanced Education
DE	Distance education
DeC	Distance and e-Learning Centre
DELPHE	Distance education learning principles for higher education
DEST	Department of Education, Science and Training (an Australian Government department that subsequently became DEEWR)
DEEWR	Department of Education, Employment and Workplace Relations
DVC	Deputy Vice-Chancellor
EASE	Electronic Assignment Submission Environment
EXT	External (mode of study)
HE	Higher education
HECS	Higher Education Contribution Scheme (HECS)
ICDE	International Council for Open and Distance Education
ICT	Information and communication technology
LTSU	Learning and Teaching Support Unit
LMS	Learning management system
LTPF	Learning and teaching performance fund
MBA	Master of Business Administration
MPM	Master of Project Management
NGT	Nominal group technique
ODLAA	Open and Distance Learning Association of Australia
ONC	On-campus (mode of study)
PDF	Portable document format

Acronym / abbreviation	Full description of acronym or abbreviation
PG	Postgraduate
PM	Project management
PMBOK	Project management body of knowledge
PMI	Project Management Institute
QIT	Queensland Institute of Technology (subsequently became QUT)
QUT	Queensland University of Technology
RLO	Regional Liaison Officer
ROP	Realising our Potential
SCHT	Socio-Cultural Historic Theory
SLC	Senior Leadership Committee
SPSS	Proprietary name of a software package for statistical analysis
UG	Undergraduate
UK	United Kingdom
USQ	University of Southern Queensland
UQ	University of Queensland
UTS	University of Technology Sydney
VC	Vice-Chancellor
WEB	Web-based (online mode of study)
ZPD	Zone of proximal development