

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

**Experiences of early adopters  
in changing their thinking regarding teaching practices  
for the online environment in a New Zealand university**

A thesis presented in partial fulfilment of the requirements of the degree of

**Master of Education in Adult Education**

at Massey University, Wellington, New Zealand

Julia Leah Hallas

2005

## **Abstract**

The aim of this thesis was to investigate how early adopters changed their thinking regarding teaching practices for the online environment. The study investigated how early adopters adapted and developed their classroom based teaching practices for the online environment, the effect of online teaching practices on their students' learning, and the types of professional development lecturers engaged in to learn about online teaching practices.

A mainly qualitative approach, within a case study method, was used to undertake the research in a medium sized, New Zealand university, where the researcher is an academic developer in the centralised professional development unit, jointly responsible for supporting staff in online teaching practices. Written informed consent was obtained from lecturers participating in this study. A mail-in survey, individual interviews and online course observations were used to gather data for the research questions. This is a limited case study owing to the small size of the sample.

The study concluded that early adopters changed their thinking about teaching practices over time, adapting and developing student-centred approaches to learning for the online environment. The study found that early adopters' perceptions of student learning was of a higher quality online, than in the classroom, owing to student learning approaches being deeper, more interactive and collaborative. Finally, the study showed that a majority of early adopters did not engage in research based professional development activities, which made changing their thinking from teacher-centred to student-centred online teaching practices, difficult and stressful.

## **Acknowledgements**

I would like to acknowledge the guidance of Alison Viskovic and Linda Leach in their supervision of this thesis. Their support, patience and attention to detail was gratefully received. A special thank you to Philip and Rebecca for their never-ending patience and encouragement. Finally, I would like to thank my colleagues who have been supportive and understanding of the time I required to complete this thesis.

## **Ethics approval**

Ethics approval was obtained from MUHEC and the Human Ethics Committee in the institution where this study takes place.



## **Declaration**

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Master of Education (Adult Education), is entirely my own work and has not been taken from the work of others, except where that work has been cited and acknowledged within the text of my own work.

## **Copyright statement**

I assert my moral right to be identified as the author of this work.

## Table of Contents

<b>ABSTRACT .....</b>	<b>I</b>
<b>ACKNOWLEDGEMENTS.....</b>	<b>II</b>
<b>ETHICS APPROVAL .....</b>	<b>II</b>
<b>DECLARATION .....</b>	<b>III</b>
<b>COPYRIGHT STATEMENT.....</b>	<b>III</b>
<b>TABLE OF CONTENTS.....</b>	<b>IV</b>
<b>CHAPTER 1: INTRODUCTION.....</b>	<b>1</b>
DEFINITIONS .....	1
THE SETTING.....	3
BACKGROUND TO THE STUDY .....	4
CURRENT RESEARCH.....	5
ONLINE ENVIRONMENTS .....	5
CHANGING LECTURERS' THINKING.....	6
SUMMARY .....	7
STRUCTURE OF THE THESIS .....	8
RESEARCH AIM AND QUESTIONS.....	8
<i>Research questions:</i> .....	8
<b>CHAPTER 2: LITERATURE REVIEW .....</b>	<b>10</b>
PART ONE .....	10
<i>Current research into online learning</i> .....	10
<i>The adoption of technology</i> .....	11
<i>Teaching practice in tertiary education</i> .....	14
<i>Using technology to enhance learning</i> .....	15
SUMMARY OF PART ONE.....	17
PART TWO.....	18
<i>Transferring teaching practices</i> .....	18
<i>Recommended teaching practices for online learning</i> .....	20
<i>Implications for professional developers</i> .....	26
SUMMARY .....	28

<b>CHAPTER 3: METHODOLOGY AND IMPLEMENTATION OF RESEARCH .....</b>	<b>30</b>
PART ONE: METHODOLOGY.....	30
<i>The research design.....</i>	<i>30</i>
<i>Consideration of narrative and case study approaches.....</i>	<i>33</i>
<i>The research questions .....</i>	<i>35</i>
<i>Selection of participants .....</i>	<i>36</i>
<i>Ethical considerations .....</i>	<i>36</i>
<i>The role of the researcher.....</i>	<i>39</i>
SUMMARY OF METHODOLOGY.....	39
PART TWO: IMPLEMENTATION OF RESEARCH.....	39
<i>The survey.....</i>	<i>40</i>
<i>The interview.....</i>	<i>40</i>
<i>The observation.....</i>	<i>41</i>
DATA ANALYSIS PROCEDURES .....	42
<i>Managing data .....</i>	<i>42</i>
<i>Content analysis .....</i>	<i>42</i>
<i>Limitations of the research .....</i>	<i>44</i>
SUMMARY .....	46
<b>CHAPTER 4: FINDINGS.....</b>	<b>47</b>
SURVEY FINDINGS.....	47
<i>Graph 1: Mode of teaching.....</i>	<i>48</i>
<i>Graph 2: Number of courses taught each semester.....</i>	<i>49</i>
<i>Graph 3: Redevelopment of online course design.....</i>	<i>49</i>
<i>Graph 4: Professional development activities undertaken .....</i>	<i>50</i>
<i>Graph 5: Useful professional development activities undertaken.....</i>	<i>51</i>
<i>Graph 6: Most effective online learning strategy.....</i>	<i>51</i>
<i>Graph 7: Theories underlying online course design .....</i>	<i>53</i>
<i>Graph 8: New skills acquired for online teaching.....</i>	<i>54</i>
<i>Graph 9: New skills lecturers would like to learn.....</i>	<i>55</i>
SUMMARY OF THE SURVEY RESULTS .....	56
OVERVIEW OF INTERVIEW PARTICIPANTS' ONLINE COURSES .....	56
<i>Fully online courses.....</i>	<i>56</i>
<i>Blended learning courses.....</i>	<i>57</i>

<i>Online course observation</i> .....	57
INDIVIDUAL INTERVIEWS AND ONLINE COURSE OBSERVATIONS.....	57
(A) <i>Planning and purpose</i> .....	58
(B) <i>Process</i> .....	61
(C) <i>Feedback</i> .....	63
(D) <i>Assessment of students</i> .....	64
(E) <i>Outcomes</i> .....	66
(F) <i>Reflective self-evaluation related to online courses</i> .....	67
(G) <i>Communication and scholarship related to online learning</i> .....	69
SUMMARY OF FINDINGS .....	69
<b>CHAPTER 5: DISCUSSION</b> .....	<b>71</b>
ADAPTING AND DEVELOPING ONLINE TEACHING PRACTICES .....	71
<i>Online course design</i> .....	71
<i>Online teaching strategies</i> .....	74
<i>Online assessment</i> .....	78
<i>Online feedback</i> .....	81
EFFECTS ON STUDENTS' LEARNING .....	82
PROFESSIONAL DEVELOPMENT ACTIVITIES.....	83
<i>Professional development undertaken</i> .....	83
<i>Future professional development</i> .....	84
SUMMARY .....	85
<b>CHAPTER 6: CONCLUSIONS</b> .....	<b>87</b>
SUMMARY OF THE STUDY.....	87
LIMITATIONS .....	88
CONCLUSIONS AND RECOMMENDATIONS FOR PROFESSIONAL DEVELOPERS .....	88
<i>Course design</i> .....	89
<i>Facilitating online learning</i> .....	90
<i>Online teaching strategies</i> .....	90
<i>Assessment</i> .....	91
<i>Feedback</i> .....	91
EFFECTIVENESS OF ONLINE TEACHING PRACTICES ON STUDENTS' LEARNING.....	92
IMPLICATIONS FOR THE BODY OF KNOWLEDGE.....	92
RECOMMENDATIONS FOR FURTHER RESEARCH.....	93

CLOSING STATEMENT.....	93
<b>REFERENCES .....</b>	<b>95</b>
<b>APPENDIX A.....</b>	<b>103</b>
ONLINE LMS SERVICES MANAGER LETTER.....	103
<b>APPENDIX B.....</b>	<b>104</b>
1. MUHEC APPROVAL .....	104
2. ETHICS COMMITTEE APPROVAL FROM THE INSTITUTION WHERE THIS STUDY TAKES PLACE	
104	
<b>APPENDIX C.....</b>	<b>105</b>
PARTICIPANTS' DOCUMENTATION AS APPROVED BY MUHEC .....	105
1. <i>Interview schedule</i> .....	105
2. <i>Intermediary letter</i> .....	105
3. <i>Survey</i> .....	105
4. <i>Invitation for further participation</i> .....	105
5. <i>Participant information sheet</i> .....	105
6. <i>Consent form</i> .....	105
7. <i>Individual interview questions</i> .....	105
8. <i>Authority for release of tape transcripts</i> .....	105
9. <i>Online course observation form</i> .....	105
<b>APPENDIX D.....</b>	<b>106</b>
1. SURVEY ANALYSIS CODES .....	106
2. EXAMPLE OF SURVEY ANALYSIS .....	106
<b>APPENDIX E.....</b>	<b>107</b>
EXAMPLE OF ANNOTATED NOTES ON AN INDIVIDUAL INTERVIEW .....	107
<b>APPENDIX F.....</b>	<b>108</b>
PHASE TWO ANALYSIS FROM INDIVIDUAL INTERVIEW .....	108

## CHAPTER 1: Introduction

The aim of this thesis was to investigate how lecturers changed their thinking regarding teaching practices for the online environment. The study explored how lecturers adapted and developed their classroom based teaching practice for the online environment, the effect of online teaching practices on their students' learning, and the types of professional development lecturers engaged in to learn about online teaching practices.

It is hoped that this limited case study will contribute to the design of professional development programmes for online teaching practices and may enhance the current body of knowledge regarding online teaching practices.

### ***Definitions***

The following definitions are used in this study.

#### **Course materials and learning materials**

*Course materials* and *learning materials* refer to text based and print based materials.

#### **Early adopters**

A category of lecturers called *early adopters*, who are described as technology enthusiasts and innovators, and are likely to be among the first lecturers in an institution to implement online learning.

#### **Mainstream majority**

Another category of lecturers, the *mainstream majority*, are described as conservative individuals, being less likely to adopt online learning until they are presented with proven applications for the use of technology for learning.

### **Online environment**

In this study, the term *online environment* relates to an online learning management system (LMS) providing access to Internet and technology resources for teaching and learning.

### **Online learning**

The term *online learning* encompasses many different terms, for example, e-learning; Internet learning; networked learning; web-based learning; and distance learning. However, online learning is more than the presentation and delivery of learning materials and resources through technology. The following is a good definition for this study:

the use of the Internet to access learning materials; to interact with the content, instructor, and other learners; and to obtain support during the learning process, in order to acquire knowledge, to construct personal meaning, and to grow from the learning experience. (Ally, 2004, p. 5)

### **Online learning management system (LMS)**

In this study, the *online LMS* may be described as a computer software program which provides an online 'classroom' in which teaching and learning may be facilitated, via the Internet. Examples of learning management systems are Blackboard and WebCT.

### **Pedagogy**

Brennan (2003) provides a definition for *pedagogy* which is useful for this study.

Pedagogy' covers the function, work, or art of a teacher or trainer. It includes the process of teaching and instruction. It is useful to think of pedagogy as being reflected in the arrangements made to enable someone to learn something for a specific purpose...which may be influenced by: the general orientation of the teacher or trainer, the kind of knowledge to be developed, the nature of the learner, the purpose the learning is to serve. (Roslin Brennan, 2003, p. 10)

### **Post or posting**

For this study, *post* or *posting* refers to saving documentation in the online LMS, as well as creating links to Internet based and technology resources such as CD-ROMs.

### **Teaching practices**

In this study, the term *teaching practices* is based on categories from Ramsden's (2003) framework for *evaluating and recognising effective teaching*. The categories focus on the promotion of learning, learning experiences, planning, teaching strategies, assessment, feedback to students, quality of learning, self-evaluation and the scholarship of teaching.

### **Technology**

In this study, *technology* is used as an umbrella term to encompass the use of an online LMS and technology resources, such as video, audio and CD-ROM.

### **Technology resources and learning resources**

*Technology resources* and *learning resources* refer to learning materials communicated via technology components, for example, video, audio, CD-ROM, which may or may not be posted in the online LMS.

### ***The setting***

This limited case study was undertaken on campus, in a medium sized New Zealand university.

The institution's academic audit, 2005, showed that as at November, the university employed 1025 fixed-term and permanent lecturers, and there were 22,111 enrolled students. This is not cited in the references as it would identify the institution.

Traditionally, this university has focused on classroom based teaching with relatively few distance learning courses. However, growing student numbers and lack of classroom space have necessitated the use of online learning approaches to teaching and learning. In order to



manage growing student numbers, an online LMS was implemented in January 2003. An innovation to a majority of university lecturers, the online LMS allowed lecturers and students to communicate, access, and exchange information with each other 24 hours a day, 7 days a week if they wished. The use of the online LMS is voluntary for lecturers, however the university's strategic plan emphasises the inclusion of an online learning component in as many courses as possible.

As a result of the implementation of the online LMS, the university has adopted three modes of teaching:

1. Access to materials: classroom learning only, with learning materials placed online.
2. Blended learning: one classroom session and one online session.
3. Fully online: learning with minimal classroom contact, i.e. a few hours per semester, one week block, or no contact at all.

### ***Background to the study***

In late 2003, in my role as professional developer at the university where this study took place, I held an *online learning clinic* for lecturers who wished to discuss their teaching practices in the online environment. One of the lecturers expressed concern that her students were not fully participating in the online environment and she was troubled as to how to overcome this difficulty, in order to continue to give her students the same quality of learning that they received in the classroom. In contrast, other lecturers expressed their delight at the level of student participation in the online environment.

I began to wonder how changes in lecturers' teaching practices had affected their confidence in their abilities. Why were some lecturers successful, when others were not? I wondered if I could access examples of teaching practices from lecturers who had successful experiences, in order to support others in making a successful transition to the online environment. This desire to support lecturers in adapting their teaching practices for the online environment, based on sound pedagogy, was the impetus for this investigation.

### ***Current research***

While there is a current body of knowledge regarding technology, rapid advancements mean it may not necessarily be entirely relevant for lecturers in today's educational environment. Early research into technology focused on the effects of discrete components, for example, TV, hypermedia, audio and video conferencing, whereas the learning management systems of today, combine and integrate these components, making the process of use for learning different. Clark (2001) argues that as technology progresses significantly each decade, each new generation of researchers treat it as something entirely new, ignoring previous research because they think it is not relevant. However, Clark (2001) suggests that lecturers should build on early research, while taking into account current technological changes, in order to obtain more reliable and worthwhile outcomes.

The effectiveness of technology on student learning has been difficult to prove in the past (R. E. Clark, 2001; Young, 2004), mainly owing to the complication of determining which element is having the beneficial effect: the technology; the teacher; the student; or the learning activity (Ally, 2004; R. E. Clark, 2001; Noe, 2002). However, recent online learning management systems provide the potential to integrate discrete technological elements and pedagogical practices. There is a lack of current research into the effectiveness of such integrated online learning and there are no clearly defined pedagogical models for online teaching practices (Roslin Brennan, 2003; Milne & White, 2005).

### ***Online environments***

All those involved in tertiary education – the policy makers, institutional decision makers, professional developers, lecturers and students - are still coming to grips with online learning (Roslin Brennan, 2003; Errington, 2001). However, the main responsibility for implementing successful online learning falls on the shoulders of the lecturers, some of whom have difficulty in adapting their classroom teaching practices to the online environment (Roslin Brennan, 2003; Torrisi & Davis, 2000; Wilson & Stacey, 2004). In addition, some lecturers are finding it difficult to accept that they have to change their

teaching practice (Errington, 2001), with some resisting it, as online learning disrupts existing systems, impacting on workloads (Robinson, 2001).

While there is an acknowledged need for lecturers to improve the implementation and integration of technology into the curriculum, changing lecturers' teaching practice is not easy, as it requires them to carry out a major rethink of their attitudes and beliefs towards teaching and learning (Lockwood & Gooley, 2001).

In contrast to lecturers, young people are having a "*love affair*" with technology (OECD, 2001). Their prolific use of computers, the Internet, games consoles and mobile phones mean that they will bring to tertiary education new and different skills and attitudes towards technology (Looms, 2002; OECD, 2001). Learners will have expectations of technology which will influence how they judge teaching and learning resources (Looms, 2002).

Proponents of online learning argue that technology is here to stay, therefore tertiary education should be asking *how* online learning may be facilitated (Cox, Carr, & Hall, 2004). However online environments are completely new to a majority of lecturers who as students, studied in the traditional classroom. Even without teacher training, they will have some knowledge of what to do in a classroom. Many lecturers are not likely to have had experiences of learning in an online environment, and will therefore have difficulty understanding what it is like to learn, let alone teach, in such an environment. This absence of online skills and experiences, lack of confidence and, in many cases, curiosity, are barriers to change (Redmond & Brown, 2004).

### ***Changing lecturers' thinking***

Some lecturers see themselves as researchers and experts in their subject area, therefore research activities are important to them, while teaching and professional development are not (Dearn, Fraser, & Ryan, 2002). On the other hand, some researchers assert that lecturers in tertiary education, who are responsible for the quality of their courses, should learn to distinguish between different types of technology and how they may contribute to the effective enhancement of learning (Adams, 2004; Laurillard, 2002; OECD, 2001). Research suggests that the integration of technology with teaching practices occurs only when there

are changes in the classroom environment, design of tasks, assessment, group interaction and student/teacher dialogue (Ellis & Phelps, 2000). Lockwood & Gooley, (2001) suggest however, that online learning approaches which radically depart from lecturers' own beliefs are the most difficult to promote.

Despite prolific research which recommends student-centred approaches to learning, the teacher-centred approach still prevails in tertiary education (deBono, 2004; Laurillard, 2002; Ramsden, 2003). Accordingly, when lecturers transfer teacher-centred approaches to the online environment, they may impact negatively on student learning, causing the lecturer to lose confidence in their abilities (Roslin Brennan, 2003).

Recent research by Wilson & Stacey (2004) identifies two categories of lecturers called *early adopters* and the *mainstream majority*. The *early adopters* are technology enthusiasts who are likely to be among the first to attend professional development courses and implement online learning. The *mainstream majority* are conservative and less likely to adopt online learning until they are presented with proven applications for the use of technology in learning.

Wilson & Stacey's (2004) research confirmed a gap between the attitudes of the *early adopters* and the *mainstream majority* towards technology and online learning, suggesting that professional development strategies which suit *early adopters* are not necessarily suitable for the *mainstream majority*. The characteristics of *early adopters* suggest that they are more likely to trial and innovate online teaching practices until they become successful.

Research suggests that lecturers who redevelop their online courses over a period of time, change their thinking regarding teacher-centred and student-centred approaches (Torrissi-Steele & Davis, 2000). Accordingly, *early adopters* may be a useful source of examples for online teaching practice.

## ***Summary***

The purpose of this thesis was to explore *early adopters'* experiences of adapting and developing teaching practices for the online environment, the impact it had on their

students' learning, and the types of professional development they engaged in to learn about online teaching practices.

This thesis used an exploratory approach, based on a mainly qualitative research design, within a case study method. The participants were purposely selected from lecturers in the *early adopter* category, in a medium-sized, New Zealand university.

A combination of surveys, individual interviews and online course observations were used to gather data. This is a limited case study, owing to the small size of the sample.

### ***Structure of the thesis***

Chapter two reviews the literature within the broad context of professional development research into online teaching and learning. It identifies gaps in the literature, and justifies the aims and research questions for the study. Chapter three explains the methodology, implementation of research and limitations of the study. Chapter four presents the analysis and findings of the gathered data. Chapter five discusses the implications of the findings in relation to the literature review. Finally, chapter six presents the conclusions from the study, implications for practice, and recommendations for further research.

### ***Research aim and questions***

The aim of this study was to investigate how *early adopters* changed their thinking regarding teaching practices for the online environment in a New Zealand university.

#### **Research questions:**

1. What teaching practices have *early adopters* adapted and developed for the online environment?
2. What have been the effects on their students' learning?
3. What professional development activities have *early adopters* undertaken to learn about online teaching practices and what further activities would they like to undertake?

It is hoped that the results of this study may be used to inform professional development programmes for online teaching practices in tertiary education. It may also contribute to the current body of knowledge regarding online teaching practices.

## CHAPTER 2: Literature Review

This study is located within the broad context of research into professional development and online teaching and learning. It focuses on how the integration of pedagogy and technology affects teaching practice in tertiary education. This chapter is in two parts. Part one places online teaching within the wider theoretical context of teaching and learning research. Part two locates the study within the body of literature related to professional development for online learning in tertiary education. Finally, the chapter concludes with a summary, linking gaps in the literature to the research aim and questions.

### *Part one*

This part discusses the lack of research into current online teaching practices. Lecturers' attitudes to the adoption of technology are described, and common pedagogical practices in tertiary education are examined. Finally, the place of technology within learning and teaching contexts is discussed.

### **Current research into online learning**

Although some researchers argue that a new paradigm of learning is emerging in tertiary education (Torrissi-Steele & Davis, 2000; Young, 2004) there is not yet a clearly defined online pedagogy, owing to a lack of current studies into effective online teaching practices (Roslin Brennan, 2003; Milne & White, 2005). Milne & White (2005) suggest this is due to the "newness of research into effective pedagogical practices for online learning" (p. 13). However, there is very recent research which suggests that online teaching using a learning management system could be effective for student learning. Singh, O'Donoghue & Worton (2005) found that online learning provided an educationally superior alternative to traditional lectures, suggesting that learning processes were enhanced through the use of technology, and supported students in becoming self-directed and independent learners.



Much of the new research into online learning appears to be dominated by studies of institutional implementation and attitudes of lecturers towards technology. There are numerous studies which identify barriers to the uptake of technology by lecturers, such as; scepticism regarding effectiveness of online learning; limited access to technology and technical support; anxiety regarding the use of technology; difficulties in developing online materials; disinterest; lack of time for developing online teaching practice and ineffective professional development (Ellis & Phelps, 2000; Errington, 2001; Felton & Evans, 2002; Redmond & Brown, 2004; Stacey & Rice, 2002; Wilson & Stacey, 2004).

In contrast, there are relatively few studies which analyse the process of change in teaching and learning practices for the online environment (Kirkpatrick, 2001; Phelps, Graham, & Kerr, 2004).

This review suggests that in today's educational environment, research into online teaching and learning is a relatively new and growing area of the educational literature (Jonassen, 2000; Milne & White, 2005). Accordingly, professional developers wishing to design effective programmes to help lecturers adapt their classroom teaching for online environments, would benefit from undertaking such research. Therefore, it is suggested that research be based on current studies regarding lecturers' attitudes to technology (Errington, 2001), while building on pedagogical and technological factors (Britton & Morgan, 2004; Ellis & Phelps, 2000). Accordingly, lecturers' attitudes to the adoption of technology are described in the next section.

### **The adoption of technology**

This section examines reasons why some lecturers embrace technology and others resist it. It then reviews research which suggests that the experiences of *early adopters* could be integral to professional development programmes for online teaching.

Lecturers' varying attitudes to technology have been among the reasons for the haphazard and scattered adoption of technology in universities (Wilson & Stacey, 2004). The *Diffusion of Innovations* model (Rogers, 1995), is a theory of the adoption of technology,



often used in tertiary education to demonstrate how new technologies are implemented by lecturers over a period of time (Wilson & Stacey, 2004).

Rogers' (1995) model is often cited in technology based studies, however research by Wilson & Stacey (2004) suggests that recently there has been a tendency in the literature to condense the model into just two categories of lecturers called *early adopters*, and the *mainstream majority*. A description of the characteristics of lecturers who belong within these two categories follows.

### ***Early adopters***

The *early adopters* (Rogers' *innovators* and *early adopters*) are described as visionaries and experimenters; they see technology as fun and challenging; are technology focused; project oriented; self-sufficient; willing to take risks for 'break through' achievements; and they tend to network horizontally, across interdisciplinary and cross-functional groups (Bailey, 2002b; Wilson & Stacey, 2004). Lecturers who fall within the *early adopters*' category are the focus of this study.

### ***Mainstream majority***

The *mainstream majority* (Roger's *early majority*, *late majority* and *laggards*) are described as pragmatic; conservative; risk averse; process oriented; tend to network vertically, within a single discipline area; expect proven applications for the use of technology in teaching; and require more support, as they are less likely to be technology-focused, confident computer users (Bailey, 2002b; Wilson & Stacey, 2004). Lecturers who fall within this category could benefit from the outcomes of this research.

### ***Experiences of early adopters***

Differences in the attitudes and abilities of lecturers described within the 'adopter categories' may impact on the content of professional development programmes (Wilson & Stacey, 2004), therefore it is useful to review research in this area.

Recent studies describe a gap between the abilities of the *early adopters* and *mainstream majority* as widening, making the transition from classroom to online teaching critical,

especially for the latter group (Bailey, 2002b; Waldron, Dawson, & Burnett, 2005; Wilson & Stacey, 2004). According to Rogers' (1995) model, institutions can identify lecturers who fall within adopter categories according to their predisposition to innovative behaviour: approximately 16% for *early adopters* and 84% for the *mainstream majority* (Bailey, 2002a; Wilson & Stacey, 2004). These figures suggest that *early adopters* will be among the first lecturers within an institution to undertake online learning. Accordingly, owing to their experimental natures, they are more likely to have trialled and discarded teaching strategies for the online environment than any other group of lecturers. They may therefore have experiences relating to online teaching practices that could be useful to professional developers in helping the *mainstream majority* move to the online environment.

Research by Wilson & Stacey (2004) suggests that *early adopters* tend to make the adoption of technology look fairly easy, disguising the knowledge and skills other lecturers need in order to do the same. They suggest that professional development strategies for *early adopters* are not necessarily suitable for the *mainstream majority*, and that this gap should be studied further. Furthermore, Bailey (2002b) proposes research to examine whether there are differences between pedagogical approaches used by *early adopters* and the *mainstream majority*.

These studies appear to suggest that *early adopters* use online teaching practices that impact positively on student learning, however, this may not be the case for all *early adopters*. While *early adopters* are deemed to have positive attitudes towards technology and teaching practice, most lecturers are subject specialists rather than trained teachers, and they may be lacking in educational and technological knowledge. Ellis & Phelps (2000) suggest that because *early adopters* are keen to experiment with technology, they will have the technological skills to develop online courses. However, it does not necessarily follow that lecturers 'keen to experiment with technology' will have all of the technological skills required for the current online environment.

This review of research points to *early adopters* being a useful source of knowledge regarding online teaching practices. Additionally, the research points to a gap between the abilities of *early adopters* and the *mainstream majority*, and suggests that professional

development undertaken by *early adopters* may not be suitable for the *mainstream majority* and that this should be researched further.

### **Teaching practice in tertiary education**

This section examines teaching and learning practices commonly found in tertiary education. Two pedagogies commonly found in tertiary education today are the teacher-centred and student-centred approaches. At any point in time, teachers may adopt one approach entirely, or use a combination of approaches. However, Ramsden (2003) suggests lecturers' teaching approaches should be conceptualised in relation to students' learning approaches.

#### ***The teacher-centred approach***

The teacher-centred approach is part of a traditional lecturer culture which prevails in many university settings today (Damoense, 2003; deBono, 2004; Laurillard, 2002; Phillips, 2005; Ramsden, 2003; Torrisi-Steele & Davis, 2000).

A number of researchers describe the teacher-centred approach (Abbott, Lachs, & Williams, 2001; McFadzean & McKenzie, 2001; Phillips, 2005; Roblyer, Edwards, & Havriluk, 2003): the teacher is seen as the holder of expert knowledge, directing the learning of content and skill development. Topics are taught through the design of sequentially structured experiences, which may be based on lectures, questioning, discussion, demonstration, student practice and testing. There is a major emphasis on written examinations, designed to measure learning goals against a matching set of criteria.

The teacher-centred approach is based on the idea that knowledge exists outside of the human mind and learning happens when that knowledge, based on someone else's world view, is transmitted to people, who receive it and store it in their minds (Roblyer et al., 2003).

#### ***The student-centred approach***

An alternative to the traditional, teacher-centred approach, is the contemporary or student-centred approach to learning. Ramsden (2003) describes this as an approach based on

conceptual change and development, associated with students taking a deep approach to learning.

Laurillard (2002, p. 190) describes student-centred teaching as finding ways of “enabling students to emulate the scholar”. The lecturer’s role changes from communicator of knowledge to facilitator, supporting students in developing metacognitive (thinking and learning) processes (Isackson, 1999; McFadzean & McKenzie, 2001; Torrissi & Davis, 2000). The social constructivist paradigm is associated with student-centred learning. Constructivist strategies encourage students to participate in collaborative experiences, actively seeking new information and relating it to their prior knowledge, in order to construct their own personal knowledge (Slavin, 2003; Torrissi-Steele & Davis, 2000). Assessment activities may be based on individual or group processes, requiring students to provide evidence of performance, for example, portfolios, which may be measured by checklists or performance criteria (Isackson, 1999; Roblyer et al., 2003). Student-centred approaches which incorporate ‘motivational context, learner activity, interaction with others and a well structured knowledge base’ are associated with a deep approach to learning (Gibbs, 1992, pp. 10-11). However, Gibbs (1992) suggests that it is the degree to which course design, teaching strategies and assessment methods encompass the factors listed above that is likely to influence deep approaches to learning by students.

This section examined how pedagogical approaches can influence students’ approaches to learning. The research suggested that a student-centred approach is associated with approaches to deep learning, however, specific factors must be taken into account to influence deep approaches.

### **Using technology to enhance learning**

This section explores the notion of *how* lecturers incorporate technology resources into their teaching practices and the impact it has on students’ learning experiences. It is useful that lecturers who are responsible for the quality of courses learn to distinguish between different types of technologies and how they may contribute to the effective enhancement of learning (Adams, 2004; Laurillard, 2002; OECD, 2001).

### ***Knowledge users learn 'from' technology***

Recent research by Kiili (2005) argues that technology is often used as a teacher substitute to deliver information to students, rather than supporting active learning processes. Even multimedia environments, which help to hold learners' attention, and may provide for differences in students' learning styles, can be passive, providing limited opportunity for problem solving (Jonassen, 2000; Kiili, 2005). Jonassen (2000) suggests that students who learn *from* technology, become *knowledge users*.

In contrast, Ally (2004) cites studies which suggest that learning is influenced by the content and instruction built into learning resources, rather than the technology which is used to deliver the instruction. Therefore, it is the design of the technology resources, for example, simulations and models, and how the student interacts with them, which makes learning possible (Ally, 2004).

### ***Knowledge constructors learn 'with' technology***

A number of researchers argue that technology can support the construction of knowledge and influence deep approaches to learning, if students learn *with* technology rather than *from* it. (Jonassen, Howland, Morre, & Marra, 2003; Kiili, 2005; Stratford & Brown, 2002). Jonassen (2000) and Kiili (2005) argue that knowledge can be acquired when students are actively engaged in designing and creating technology based products. Goddard (2002) suggests that students become product developers when they produce real world applications, engaging in authentic learning processes, for example, research, design, analysis, composition and communication. Jonassen (2000) suggests that students change from being *learners* to *designers* and from *knowledge users* to *knowledge constructors*. When students learn *with* technology, the emphasis is on *knowledge construction*, which is an idea based on constructivist pedagogical approaches (Jonassen et al., 2003).

The development of technology resources is a significant component of online learning and their design should revolve around the students' use of them (Torrisi-Steele & Davis, 2000). Research suggests lecturers should acquire a knowledge of pedagogy as applied to technologies such as multimedia, software and hardware, as the design of learning

resources cannot simply be inferred from the capabilities of technology (Laurillard, 2002; Torrisi-Steele & Davis, 2000). A study into online professional development by Torrisi-Steele & Davis (2000) found that lecturers new to online teaching do not necessarily integrate technology with their online teaching resources, even when working alongside an educational designer. In contrast, another study of online professional development by Ellis & Phelps (2000) described how lecturers learned to produce video, audio and HTML files to create their own technology resources, thus taking a learning *with* approach, to learning about technology.

This review of research suggests that the use of technology in education may best be achieved by providing students with the opportunity to learn *with* technology, concepts which correspond with student-centred approaches to learning.

### ***Summary of part one***

Part one showed that as a result of changing technology, research into online teaching and learning is a new and growing area. It was suggested that professional developers could benefit from undertaking research into online teaching practices, but should consider lecturers' attitudes to technology, as well as pedagogical and technological factors when designing programmes.

It was determined that *early adopters* could be a useful source of knowledge regarding online teaching practices. The review of literature determined a gap between the abilities of *early adopters* and the *mainstream majority*, suggesting that further research should be undertaken into the types of professional development programmes that would suit lecturers from each category.

The literature suggests that student-centred teaching methods are more likely to impact positively on students' approaches to learning. These findings correlated with the use of technology for learning, which recommended that it should also be based on student-centred approaches, providing opportunities for students to construct knowledge.



## ***Part two***

Part two locates the study within the context of professional development in online learning for tertiary education. Current research into the transfer of classroom teaching practices into the online environment is examined. Then research into recommended teaching practices for the online environment is explored. In part one, it was suggested there are few studies about the process of lecturers' changing their teaching practices for the online environment. Therefore, studies which focus on how professional developers could research change into teaching and learning practice for the online environment are also described. The chapter concludes with a summary of the literature review.

### **Transferring teaching practices**

This section examines professional development studies that describe the effects of transferring classroom teaching practices to the online environment.

A study by Torrisi & Davis (2000) reported that students were not using online materials to the extent lecturers had expected. Lecturers thought that posting lecture notes online for students to access was the most important use of the online environment. Yet these same lecturers expected their students to develop key competencies such as critical analysis and research abilities. Torrisi & Davis (2000) argue that key competencies are best developed with student-centred rather than teacher-centred approaches to learning, and that students had not been given the opportunity to engage constructively with the learning materials. Young (2004) reports that when lecture notes were placed online prior to class, session attendances dropped significantly. Brennan (2003) suggests that when lecturers transfer teacher-centred practices to the online environment, negative effects on student learning are a common occurrence, bringing about a crisis in teacher confidence.

Milne & White (2005) report on a study which suggests that, although lecturers felt they had enough 'technology' information, they did not have enough information about 'effective practice' for online teaching. Major concerns of lecturers in a study by Torrisi-Steele & Davis (2000), were their perceived lack of knowledge about 'how it works' and 'what is possible' in an online environment, specifically asking for access to others'

experiences in developing online teaching and learning resources. Early adopters "...have left few working exemplars for staff attempting to engage with the medium for the first time" (Waldron et al., 2005, p. 2).

Brennan (2003) carried out a major study regarding online pedagogical practices within the vocational education and training (VET) sector in Australia. Findings showed that while lecturers moving to online learning have a background in classroom teaching, their experiences may not necessarily be useful or adaptable in the online environment. McFadzean & McKenzie (2001) suggest that it is not a straightforward task to simply transfer existing practices without factoring in technological differences. Ramsden (2003) argues however, that lecturers should consider the effects of their teaching practices on students' approaches to learning. The success of online teaching is dependent on the understandings lecturers have about pedagogy and technology (Milne & White, 2005). Brennan (2003) recommends that further research into teaching practices which may be transferred from the classroom to an online environment is necessary. In addition, Ellis & Phelps (2000) recommend that new pedagogical methods for the online environment be explored.

This section explored the experiences of lecturers in transferring classroom teaching practices to an online environment they are unfamiliar with. The research suggested that lecturers' classroom teaching experiences may not be useful or adaptable in the online environment. Accordingly, the literature showed that when lecturers transfer teacher-centred approaches to the online environment, they may impact negatively on student learning and lecturer confidence. Therefore, it was suggested that research into the kinds of teaching practices which may be transferred from the classroom to the online environment be undertaken. Finally, it was established that lecturers would like to access examples of effective teaching practice for the online environment. This review of research identifies the usefulness of this present study for professional developers.



## **Recommended teaching practices for online learning**

This section defines *teaching practice* for this study and explores recommended teaching practices for the online environment.

The concept of *teaching practice* for this study, is based on Ramsden's (2003) framework for *evaluating and recognising effective teaching*. The framework is made up of categories and questions which focus on planning, teaching strategies, assessment, feedback, quality of learning, self-evaluation and scholarship of teaching.

Categories from within Ramsden's (2003) framework for *evaluating and recognising effective teaching*, were used loosely to explore and organise recommended teaching practices for the online environment. There are many teaching practices used in the classroom which will also apply to the online environment, therefore a focus on adapting rather than developing these factors, may be all that is required when moving online. It is not necessarily an either / or situation.

### ***Planning***

McFadzean & McKenzie (2001) suggest that in the online environment, there is a requirement to do more preparation before the semester starts: designing units of work, creating resources and planning group processes. Ongoing maintenance is described as being the updating of online courses, student support issues and technical issues (Ellis & Phelps, 2000). Lecturers within teaching teams should advise students on learning activities, provide feedback, support teams, promote positive and effective participation, and encourage motivation and commitment (McFadzean & McKenzie, 2001).

A wide range of Internet resources can be accessed by students from links lecturers create in their online courses (Maharey, 2002). Online content means the lecture is not lost, therefore students can study information at greater depth and at a time convenient to them (Maharey, 2002). Ellis & Phelps (2000) recommend that intellectual property rights, copyright issues and workloads should be considered when planning to integrate course materials and technology resources into online courses. Young (2004) concluded that

online learning created more of a burden for lecturers in terms of the set up and management of online tasks, for example, managing student assignments, communication, follow up, monitoring processes, record keeping and technical problems.

### *Learning experiences*

To foster effective online learning, some researchers recommend the use of student-centred approaches, with technology based student learning activities: cooperative learning styles using small group discussions and online debates; simulations and interactive instructional strategies; individual learning projects; and the pursuit of theoretical knowledge through problem solving, investigation and research (Roslin Brennan, 2003; Goddard, 2002; Young, 2004).

Learning outcomes may be enhanced when the lecturer intentionally designs student interactions into the online environment (Young, 2004). A number of researchers attempt to describe *student interactions*. Clarke (2001) suggests that effective online interaction depends on presenting content in a way that motivates and engages students. Lynch (2002) argues student interaction is not about repetition and regurgitation, rather it is about communication and demonstrating thinking processes. Forms of interactive communication include writing reflectively, being actively involved in discussion with peers and facilitator, taking on leadership roles in presenting what has been learned, as well as active participation: mentoring, coaching, problem-solving teams and constructing knowledge: analysis, synthesis and evaluation (Lynch, 2002).

The design of online learning experiences should acknowledge aspects of learner characteristics, for example, cultural background, prior knowledge and learning styles (Torrissi-Steele & Davis, 2000), and meet learners' individual needs through the consideration of content, structure, teaching methods, learning activities and support associated with learning (Ministry of Education, 2004). In particular, students should be encouraged to take responsibility for planning and controlling their own learning processes (McFadzean & McKenzie, 2001; Milne & White, 2005).

### *Collaborative learning*

Collaborative online learning occurs when students interact in a one-to-many or many-to-many situation, through a range of online learning facilities, for example, email, discussion forums, private group forums and chat rooms (McFadzean & McKenzie, 2001).

Young (2004), argues that collaborative learning is more likely to happen online than in the classroom if online strategies are collaborative and social, rather than competitive and isolated. "Sharing one's ideas and responding to others improves thinking and deepens understanding" (Young, 2004, p. 135).

McFadzean & McKenzie (2001) cite studies which suggests the online environment impacts positively on group productivity. Online groups are more focused than classroom groups because they are not interrupted by sessions finishing and students are more likely to engage in open discussion due to relative anonymity, however, it was acknowledged that these factors may increase 'free-riding and uninhibited behaviour' (McFadzean & McKenzie, 2001).

McFadzean & McKenzie (2001) argue that when students take part in online discussion and collaborative activities, they are encouraged to apply new information to their existing knowledge, building on their experiences, making learning more personal and valuable. Damoense (2003) suggests online teamwork activities which cannot be done individually encourage students to accomplish something substantial, helping students to teach each other, making them more aware of learning processes. According to McLoughlin (2002), collaborative activities improve content learning due to the inclusion of factors associated with effective learning, for example, problem solving, team building and co-operative learning strategies. McLoughlin (2002) proposes that collaborative processes are significant when taking into account that in the workplace, people work in teams, using technology, sharing, revising and transforming knowledge through the processes of discussion, application and analysis.

However, online collaborative processes are not without their difficulties. McLoughlin (2002) reports that teams which are productive spend more time planning and

communicating with each other, therefore online teams can be improved if lecturers assist students with these aspects. Online discussion can be improved if lecturers take an active role in redirecting and moderating discussion as necessary (McLoughlin, 2002). It is recommended that further research be undertaken into effective online methods of teamwork, include goal setting, planning, size and duration of teams, and positive group facilitation processes (McFadzean & McKenzie, 2001; McLoughlin, 2002).

Laurillard (2002) argues that the lecturer-student discussion is a vital part of the online learning process and although research into online collaboration is increasing, it is new in terms of student-student discussion. Laurillard (2002) suggests that discussion around a topic can be an effective way of students finding out what they do and do not know, but it may not necessarily lead them to what they should know. Some studies suggest that discussion interactions are not always successful owing to a lack of feedback from the lecturer and lack of reflection by the student on the task undertaken (Laurillard, 2002). Laurillard (2002) recommends that further study into how to implement online discussion is necessary.

### *Assessment of students*

When setting formative or summative assessment activities, lecturers should consider two questions: whether the assessment methods they choose to use are the best for achieving the learning outcomes, and how the online assessment will add to the learning experiences of their students (Devlin, 2001; Ramsden, 2003). Assessment is integral to course design, therefore learning outcomes should be clearly linked to assessment activities (Bostock, 2002; Devlin, 2001; Phillips, 2005; Ramsden, 2003).

A learning management system provides a *test function* which allows the creation of fixed-choice questions (for example, multiple choice, true/false, matching and ordering), suggested answers, and feedback. The tests and marking are automated by the online LMS, enabling students to receive immediate results and feedback, once submitted. Essays and discussion type assessment answers cannot be automated and must be marked by the lecturer.

Some researchers warn that unless computerised fixed-choice tests are carefully planned, they tend to overemphasise factual knowledge and lower level cognitive skills, instead of higher-order problem solving and conceptual skills. (Bostock, 2002; Brown, Rust, & Gibbs, 2000; Devlin, 2001; Lin & Gronlund, 2000). Bostock (2002) argues that deep learning is more likely to occur when students use learning outcomes to set their own questions and marking criteria.

Although an online LMS provides a *test function*, assessments are not limited to this method when teaching in an online environment. Phillips & Lowe (2003) examined a wide range of assessment strategies and concluded that only oral and practical work are not feasible in the online environment. Accordingly, Phillips & Lowe (2003) recommend that online courses should include a range of formative and summative assessment tasks which assess deep learning, utilise open-book rather than closed book exams, and be relevant to the workplace.

Laurillard (2002) argues that new technology changes the curriculum and the way in which content is learned, therefore assessment processes need to change if they are to correspond with student learning processes. Institutional policy regarding assessment procedures should also change to keep up with new assessment practices, in order to reduce the adverse effects of inappropriate assessment on new learning innovations (Laurillard, 2002). Laurillard (2002) suggests that the responsibility for a change in assessment policy lies jointly with the institution and individual lecturers.

Salmon (2000) argues there is a gap between how students learn online and how they are assessed. Salmon (2000) suggests that traditional assessment is often based on an information transfer model, whereas students spend a great deal of time collaboratively learning through online communication facilities. Accordingly, as lecturers become more comfortable in the online environment, it is suggested that they will look for alternatives to traditional assessment (Salmon, 2000).

### ***Feedback***

When prompt and helpful feedback regarding online formative assessment activities is provided, it is beneficial in helping students learn (Bostock, 2002; McFadzean & McKenzie, 2001). Maharey (2002) suggests the online environment facilitates rapid feedback, which is critical in motivating students to learn.

Devlin (2001) suggests that students should be able to communicate their understandings to, and get feedback from other students on their efforts. A peer feedback activity is based on students marking each other's work and providing information regarding their peer's strengths and weaknesses (Bostock, 1998). Bostock (2002) points out that students should specifically be taught how to provide peer feedback. The judgement criteria should be made clear to students and should be based on learning outcomes (Salmon, 2000).

Young (2004) suggests that lecturers could use the LMS *assignment function* to provide feedback to students on draft assessments. On the other hand, this process may be time-consuming for lecturers with large cohorts of students, therefore they should develop strategies to balance the benefits of individual feedback with time management (Young, 2004).

Discussion between lecturers and students is vital to the learning process, as it allows students to 'stand back from their experience', review their learning and receive feedback from the lecturer on how they are expressing their learning (Laurillard, 2002, p. 159). The interactive and communicative environment allows lecturers to identify students' misconceptions and provide individual feedback to that student (Laurillard, 2002).

### ***Reflective self-evaluation related to online courses***

Successful online teaching requires lecturers to assess their teaching (Young, 2004), therefore it is suggested that lecturers evaluate their online sessions through the use of online LMS evaluation forms (McFadzean & McKenzie, 2001). As an alternative to evaluation forms, reflection can be used for self-evaluation. Deep approaches to understanding may be encouraged by undertaking reflective processes (Moon, 1999), therefore asking lecturers to reflect on and question their own teaching assumptions and



practices may be useful in bringing about changes in teaching practice (Torrissi-Steele & Davis, 2000).

### ***Communication and scholarship***

Lecturers can benefit from collegial support which encourages the sharing of experiences and ideas, as well as assistance with technology and pedagogical issues (Ellis & Phelps, 2000; Mitchell, Clayton, Gower, Barr, & Bright, 2005). For example, the development of an institutional policy for minimising online workloads would be a useful collaborative activity for lecturers to undertake (Ellis & Phelps, 2000; Mitchell et al., 2005).

Effective teaching is dependent on teachers connecting their teaching strategies to research, through their “scholarly capacity to interpret and use evidence to improve student learning” (Ramsden, 2003, p. 215). Ramsden (2003) suggests that teachers who apply practical teaching strategies without an understanding of how they fit within a teaching approach, are less likely to help their students learn; therefore teachers who integrate theory and practice are more likely to understand how their teaching practices will affect the quality of their students’ learning.

This section explored recommended teaching practices for online learning. It was established that for this study, ‘teaching practices’ would be based on categories from Ramsden’s (2003) framework for *evaluating and recognising effective teaching*. The research shows that the online environment challenges classroom teaching practices in terms of planning, individual and group interactions, student/teacher dialogue and assessment, therefore research into new teaching methods should be explored (Ellis & Phelps, 2000).

### **Implications for professional developers**

This section reviews research which describes ways in which professional developers might research changes in teaching practices.

The professionalism of university teaching is underpinned by the articulation of the professional knowledge base. In order to inform such a knowledge base, professional

developers require an understanding of the ways in which lecturers develop professional knowledge (Dearn et al., 2002). Professionalism in tertiary education and the improvement of teaching can be enhanced by lecturers researching the effects of teaching approaches and how their students learn (Laurillard, 2002; Ramsden, 2003), therefore it is not unreasonable for professional developers to research how their colleagues learn. By exploring the experiences of lecturers, we may identify issues which can inform appropriate and relevant professional development support (Kirkpatrick, 2001; Torrisi & Davis, 2000). Experiences of lecturers can help professional developers to understand the thinking that informs their online teaching practices, and this can inform the conceptual and procedural design of a professional development programme (Borady-Ortmann, 2002; Cajas, 2000).

The change process can be messy and difficult, taking lecturers out of their comfort zones (Robinson, 2001). However, the process of learning involves a change in understanding or conception of one's world view. Therefore, an important notion for professional developers to understand is that, at the individual level, change takes time and should be viewed as a developmental process rather than as a single event (Dooley, Metcalf, & Martinez, 1999; Torrisi-Steele & Davis, 2000).

A study by Torrisi & Davis (2000) revealed that lecturers who had redeveloped their online courses over a period of two or more semesters, found that teaching within the environment had caused them to change their thoughts about teacher-centred and student-centred approaches, but admitted it did not happen without difficulty. Torrisi-Steele & Davis (2000) argue that changing from a teacher-centred to student-centred approach is enormously difficult and is best facilitated by professional developers who adopt strategies to foster reflective practice. Engaging lecturers to question their own teaching assumptions and practices may provide them with an opportunity to reflect on teaching processes which supposedly make their lives easier, but in actual fact work against their best interests (Torrisi-Steele & Davis, 2000). Reflection can encourage deep approaches to understanding (Moon, 1999), therefore reflective practice is a useful tool for professional development when dealing with new modes of teaching (R Brennan, McFadden, & Law, 2001).



This section of the review determined that the improvement of tertiary teaching can be enhanced by studying the effects of teaching approaches on students' learning. An important finding for this study was that lecturers who redeveloped their online courses over a period of two or more semesters changed their thoughts about the use of teacher-centred and student-centred methods, albeit with difficulty. Finally, it was suggested that reflective practice could be a useful tool for professional development, as strategies which foster deep approaches to understanding are more likely to bring about changes in teaching practices.

### ***Summary***

This review of literature established that research into online teaching and learning is a new and growing area, and that professional developers as well as lecturers could benefit from undertaking research into online teaching practices. It was established that for this study, the notion of *teaching practices* would be based on categories from Ramsden's (2003) framework for *evaluating and recognising effective teaching*.

The research suggested that some lecturers' classroom teaching experiences may not be useful or adaptable in the online environment. The literature showed that when lecturers transfer teacher-centred approaches to the online environment, they may impact negatively on student learning and the lecturer's confidence. In contrast, the literature suggested that student-centred approaches to learning both in the classroom and online, are more likely to influence deep approaches to learning, findings which correlated with the use of technology for learning. Therefore emerging research should be underpinned by sound pedagogical practices for teaching and learning, as well as the use of technology to enhance learning.

The review of literature identified a number of gaps: lecturers wanted access to examples of effective online teaching practices; there is little research into how lecturers change their thinking regarding online teaching practices; and that research into the kinds of teaching practices which could be transferred from the classroom to the online environment should be undertaken.

It was suggested that owing to *early adopters'* experiences, they could be a useful source of knowledge in helping others adapt their teaching practices for the online environment. The literature determined a gap between the online teaching abilities of *early adopters* and the *mainstream majority*, and a gap between the types of professional development they should undertake. Therefore, it was suggested that further research should be undertaken into the types of professional development activities *early adopters* and the *mainstream majority* should be involved in. In light of these gaps in the literature, it was decided to undertake this study, especially in relation to New Zealand, professional development and *early adopters*. This review contributed strongly to the development of the aim and questions, stated at the end of chapter one.

The next chapter discusses the methodology, implementation and limitations of this study.

## **CHAPTER 3: Methodology and implementation of research**

Chapter two suggested that when lecturers transfer teacher-centred approaches to the online environment, they may impact negatively on student learning and lecturers' professional confidence. It was established that there is a need for research into how lecturers change their thinking regarding online teaching practices. The review suggested that a group of lecturers called *early adopters* may be a useful source of knowledge when researching online teaching practices. To answer the research questions, a qualitative approach is indicated.

This chapter is in two parts. Part one discusses and justifies the methodological approach used to explore the research questions. Part two provides a detailed explanation of the data gathering and data analysis procedures. The term *lecturers*, will be used to describe *early adopters*.

### ***Part one: Methodology***

This part discusses and provides a rationale for a research design based on a mainly qualitative approach using the case study method. A comparison of quantitative and qualitative approaches, narrative and case study methods is made to explain the choice of research design for this study. A description of the participants and an explanation of ethics protocols and sensitive ethical issues are presented. Finally, issues related to the role of the researcher are discussed.

### **The research design**

The purpose of a research design is to set out a clearly defined framework for a study, which systematically guides the researcher in the specific details of data collection and analysis (Leedy, 1993). The type of problem to be solved or questions to be explored, will

determine the approach to the study (Janesick, 1994). Qualitative and quantitative approaches are two commonly used research designs in education today.

### ***Quantitative research***

If the research question is undertaken to prove or disprove a theory or hypothesis, then a quantitative methodology can be appropriate, as it provides statistical information from deductive, experimental research. Quantitative problems evolve from literature, where a substantial body of knowledge is available for the researcher to draw from and build upon (Cresswell, 1994). Researchers test and verify existing theories or ideas using known variables (Cresswell, 1994). The outcome of quantitative research aims to provide the reader with *what* happened, but not necessarily *why* a phenomenon happened.

### ***Qualitative research***

If the research question asks about experiences of human problems, a qualitative methodology can be appropriate, as it takes an exploratory approach, designed to collect data which provides a holistic picture of the participants' views or situation. Researchers ask qualitative questions in order to explore a theory or idea when there is little research or information about it in the literature, from which to form a hypothesis (Cresswell, 1994). While theory may not necessarily guide the study, the inductive, exploratory nature offers an opportunity for the researcher to develop new theory or add to theory from the process (Cresswell, 1994). The outcome of qualitative research aims to provide the reader with *why* a phenomenon has happened.

### ***Focus on the qualitative approach in this study***

A qualitative research design provides a process of inquiry, exploring and then describing participants' understandings of a social or human problem, which may be based on events or experiences within a social or natural setting (Cresswell, 1994; Janesick, 1994).

Interviews and observations are commonly used methods to gather data based on *understanding* or *meaning*. The following are specific characteristics which differentiate qualitative research from quantitative:

1. Quantitative researchers are interested in outcomes based on the testing of cause and effect variables (Borady-Ortmann, 2002). The qualitative researcher is interested in processes, understanding *how* participants make sense of their experiences of a phenomenon within a specific setting. In order to present meaningful information the researcher should accurately report the interpretations and *voices* of the participants in analysis (Blaxter, Hughes, & Tight, 1996).
2. In a qualitative study, the process of data gathering and analysis is mediated through the researcher. When field work is undertaken to gather data through observation and interviews, the researcher enters the social setting where the participants' experiences occur (Cresswell, 1994). Accordingly, the development of a trusting relationship between the researcher and participant should be encouraged in the hope of receiving richer and more accurate data (Cresswell, 1994).
3. Qualitative design is not bound by 'rules and procedures', rather it is 'open and emerging' (Cresswell, 1994), providing rich, descriptive information, which allows the reader to paint a holistic view of participants' understandings (Bell, 1999).
4. Qualitative research uses an 'interpretivist' or 'inductive' approach to data analysis, as the purpose of the approach is to explore participants' experiences and viewpoints of phenomena. The researcher therefore engages in analysis to unearth categories, themes and patterns providing rich, context-bound information in order to build concepts and theories to explain the phenomenon (Cresswell, 1994; Janesick, 1994). The researcher may then develop their own interpretation of the data, by comparing that meaning with similar instances identified in the literature review (1996, p. 197).

### ***Rationale for a mainly qualitative design***

The research design for this study has taken a mainly qualitative approach. However, both quantitative and qualitative data were gathered. The aim of this study was to investigate how *early adopters* changed their thinking regarding teaching practices for the online environment. The literature review showed that there was a lack of research into this area,

and as the research questions were of an exploratory nature, a qualitative design which provided for an inductive, exploratory approach was found to be useful. The qualitative approach was intended to provide the study with in-depth, rich descriptions of the participants' decision-making regarding online teaching practices. The approach allowed the researcher to interpret participants' meanings and to compare those meanings with similar instances from the literature review. It provided an opportunity to visit the participants' natural setting - their online course - to see where real experiences occurred and how they took place. Minimal quantitative data (five survey questions) were required to facilitate the purposeful selection of participants for interview and to collect specific data from the wider population of lecturers with online courses. All other data gathered were qualitative.

### **Consideration of narrative and case study approaches**

This section describes and justifies the choice of a case study method for the research. Two approaches were particularly considered when determining the best method for this study: the narrative and case study methods.

#### ***Narrative method***

In order to support a transformation in teaching practices in tertiary education, it is recommended that researchers investigate lecturers' stories and responses to change (Errington, 2001; Kirkpatrick, 2001; Walker, 2002). The idea of exploring lecturers' stories, in this study, made the narrative approach worthy of consideration. This method involves collecting and developing participants' stories and is appropriate when the researcher wishes to portray 'intensely personal accounts of human experience' (Grey, 1998, cited in Bell, 1999, p.16). Stories or case studies are often used in education as the basis for discussing how successful practice may be implemented (Bell, 1999).

Some factors associated with the narrative method did not however, meet all of the parameters of this study. The time it would take to get the depth required from individual interviews was not appropriate for this limited time-scale study. Bell (1999) points out that the close relationship required by the researcher and story teller can be difficult for first-

time researchers, which I was. I also needed to gather different types of evidence to provide a wider view than was possible solely through the interviews. This method was therefore discarded.

### *Case study method*

Case study method is suitable for researchers who wish to gain an in-depth understanding of single or multiple situations (the case) by gathering information about individuals or groups, in order to ascertain meaning for those involved (Bell, 1999; Merriam, 1998).

The case study is planned using a variety of data collection tools and evidence is systematically collected over a specified period of time (Bell, 1999; Cresswell, 1994). Interviews and observations are frequently used data gathering tools, however no method is excluded (Bell, 1999). Quantitative tools such as questionnaires, may be used to gather some of the data required for the study. Interviews and/or observation may follow up the questionnaire to explore 'interactive processes' which were largely hidden in the questionnaire (Bell, 1999). The interactive processes seek to explain why particular events have happened in a specific setting.

The case study method enables a researcher to study a situation within a limited setting, for example, an educational institution, in order to improve or evaluate a situation (Bell, 1999). If the case study is based on one institution, the institution will have its own unique features, as well as those it has in common with other institutions (Bell, 1999).

Case studies are often carried out on a small scale, as the time and effort required to gather and analyse large amounts of data are significant (Bell, 1999). When working to a deadline, it is important to place parameters around the amount of data collected for analysis.

Planning a clearly defined, *bounded* case study topic, with a beginning and end point, along with specific propositions, makes it more likely for the study to be kept within reasonable limits (Bell, 1999).

Justification for a case study method can be problematic. Critics question the value of small scale, singular studies which are often difficult to generalise from (Bell, 1999; R Brennan et al., 2001). This may be overcome somewhat by relating specific characteristics



of the case study to others similar in type, allowing, to some extent, findings to be generalised and comparisons made with other similar studies (Bell, 1999).

### ***Rationale for case study approach***

The method chosen for this research is the case study method. It is suitable for researchers who wish to carry out an in-depth study within a single institution. As a major factor for this study was to complete a thesis for a qualification, the project needed to be containable so it could be completed within the limited timeframe. The case study method allows for both qualitative and quantitative data to be collected in order to gather the range of information required. This specific study aimed to explore how *early adopters* change their thinking regarding teaching practices for the online environment. By asking participants to critically examine their choices, we may attempt to gain insights into understanding how they modified their beliefs or changed their practice (Errington, 2001; Kirkpatrick, 2001; Walker, 2002).

### **The research questions**

Changing from a teacher-centred to student-centred approach when dealing with new modes of teaching can be difficult, and is best facilitated by professional developers who adopt strategies to foster reflective practice (R Brennan et al., 2001; Torrisi-Steele & Davis, 2000). In light of this, it was decided to use for this study Ramsden's (2003, pp. 215-216) framework for *evaluating and recognising effective teaching*, which asks lecturers to reflect on what they do and think, in terms of their teaching techniques and values. The framework provides a series of questions which focus on pedagogy, teaching strategies, feedback, assessment, quality of learning, self-evaluation and scholarship of teaching.

In this study, lecturers were asked to reflect on their expertise in 'applying rules and knowledge about good teaching', in order to make 'decisions about student learning in particular contexts' (Ramsden, 2003, pp. 215-216). They were asked to reflect on their ability to 'connect their teaching strategies to research in their discipline', in order to consider valid and relevant information about the improvement of teaching (Ramsden, 2003, pp. 215-216). This framework has been adapted and woven into the data gathering tools.



## **Selection of participants**

To address the research questions, it was necessary to identify groups of lecturers whose work included online teaching. The review of literature established that lecturers' thinking about teaching practices change as they redevelop their online courses over a period of two or more semesters (Torrise & Davis, 2000). Accordingly, this study purposely selected lecturers who had redeveloped their online courses over a period of time, in order to investigate the experiences of lecturers' changing their thinking regarding teaching practices.

The participants were university lecturers, who were using the online learning management system for blended learning or fully online courses. The proportion of university lecturers enrolled in the online LMS in the case study institution was 22% of all staff. Information from the literature review suggests that 16% of lecturers in an institution may be identified as *early adopters*. These figures suggested that the university was just passing through the *early adopter* stage at the time this study took place. Therefore it was reasonable to suggest that most participants in the study would be from the *early adopter* category. Permission was obtained from the Blackboard Services Manager, to access the Blackboard LMS database for a list of lecturers' names. The letter requesting permission explains the purpose of the research and the methods of data gathering and was approved by MUHEC. (See appendix A.)

## **Ethical considerations**

A knowledge of ethical considerations will guide a researcher's professional practice and determine the position they take in solving ethical dilemmas (J. Clark, 1997).

As this study involved human participants, approval of the planned process was obtained from the Massey Human Ethics Committee (MUHEC) and the Human Ethics Committee at the institution in which the study took place. (See appendix B.) Data gathering procedures, recording and storing of data were carried out according to the stated ethics protocols. As this study was investigated, the research aims and questions became more refined over time,

as indicated by the early project title and questions. Data gathering documentation did not change.

Janesick (1994) suggests that researchers should anticipate and deal with ethical issues as they arise. An issue that arose during the ethics application process was one of an informal student/teacher relationship between myself and potential participants. The Blackboard Services Manager agreed to act as an intermediary to make the initial approach to potential participants via a letter attached to the front of the survey. 'Participant documentation' was approved by MUHEC and the Human Ethics Committee at the institution in which the study took place. (See appendix C.) The 'Invitation for further participation' sheet was updated to reflect the Manager's part as intermediary. (See appendix C.)

### ***Sensitive ethical considerations***

Sensitive ethical considerations include, but are not limited to, *informed consent*, *privacy*, *anonymity* and *confidentiality* of information.

### **Informed consent**

Informed consent is conditional on potential participants having enough information about the study and what is expected of them, in order to weigh the possible benefits or harm to themselves (J. Clark, 1997). Clark (1997) suggests informed consent should be written and obtained for most data collection tools, except for 'mail-in' or phone type surveys.

Written informed consent was obtained from lecturers participating in the interviews and for the online course observations. Eight survey respondents who met the selection criteria for interviews, agreed to consider the invitation to continue the study. A participant information sheet, consent form and interview questions were sent to the respondents for their perusal. (See appendix C.) Additionally, information about the interview and course observation was verbally explained to each participant and their questions were answered. Each of the eight respondents agreed that the individual interview questions, online course observation and research procedures were acceptable to them. At this point, consent forms were signed and copies sent to each participant. One participant requested not to be sent a copy of the consent form. This same participant, who was overseas at the time, did not send

back the 'release of interview transcript form', but emailed approval. Consent forms have been stored securely and separately from other data, as stipulated by MUHEC.

An interview schedule was created to keep account of the documentation sent to participants and received by myself, as well as interview times, dates and places. This information, along with tapes and transcripts of data is kept secure, according to MUHEC protocols.

### **Confidentiality of information**

Confidentiality relates to the information collected in a research study being used for the purpose it was intended. Disclosing information collected in confidence, to others without authorisation, is unethical, as it is disrespectful and breaches the participants' privacy (J. Clark, 1997). "The onus is on the educational researcher to ensure that information given in confidence is regarded as privileged" (J. Clark, 1997, p. 162).

Confidentiality also refers to keeping the anonymity of participants if this has been authorised. In this study, the survey data was collected anonymously. Once the interview participants had approved their transcripts, their names were removed from the transcripts. Participants' names were not typed on the online observation forms. The identities of participants and the institution where this study took place, have been kept confidential in all reported analysis and findings.

### **Privacy**

Privacy issues include access to observe interactions in non-public places (J. Clark, 1997), therefore informed consent was obtained to observe participants' online courses. MUHEC approval was not sought to collect student data from online courses. Accordingly, the observation form specifically stated "do not collect any student data" as a formal reminder notice to the researcher and participants, that student data was not required as part of the study and would not be collected.

## **The role of the researcher**

It is useful to make clear any bias, values, assumptions or judgements made by the researcher (Cresswell, 1994). I work as an academic developer in the centralised professional development unit where this study took place. I am particularly interested in how technology can be used effectively to enhance learning in tertiary education. A major part of my role is working with lecturers in the area of online learning. Therefore I am interested in facilitating effective online teaching practices.

## ***Summary of methodology***

The aim of this study was to investigate the experiences of *early adopters* in changing their thinking regarding teaching practices for the online environment. The research approach was mainly qualitative, using a case study method, in order to investigate participants' online teaching practices within a single, medium sized New Zealand university. The participants were *early adopters* who used the online LMS for blended or distance learning, and who had redeveloped their online courses over a minimum period of three semesters. Ethics approval was obtained from MUHEC and the Human Ethics Committee at the institution where the study took place. All research procedures were implemented according to Human Ethics Committees' protocols. Informed consent forms were signed by each of the participants interviewed and along with the data, have been kept secure and confidential. The questions used to gather data were reflective, based on Ramsden's (2003) framework for *evaluating and recognising effective teaching*, which asks lecturers to reflect on what they do and think, in terms of their teaching practices. Part two of this chapter, describes the data gathering and analysis procedures.

## ***Part two: Implementation of research***

This section explains the use of data gathering tools and provides a description of how data was gathered and analysed. Three data gathering tools were used: a survey, an individual interview and an online course observation. Lecturers were asked to complete a mail-in survey about professional development for online teaching practices. It was also used to determine the eligibility for continuation in this study. Semi-structured, individual

interviews were undertaken to gather rich descriptions of teaching practices from participants who had redeveloped their online courses over a period of time. The online course observation provided an opportunity to confirm data collected from the interviews.

### **The survey**

Surveys are often used to gather factual information from a sample of the population being studied (Bouma, 1993). The survey questions for this study were designed for two purposes. Firstly, to select a *purposeful sample* for the individual interviews and secondly, to gather general professional development information. Questions 1-3 were quantitative in nature, designed to facilitate the selection process for the interviews. Questions 4-5 were quantitative, and used to collect data on the types of professional development activities undertaken to learn about online teaching practices. Questions 6-8 were qualitative, in an attempt to draw on the existing professional knowledge lecturers have regarding online teaching practices.

The mail-in survey was sent via the university's internal mail system to 225 lecturers listed in the online LMS *address book*. (See appendix C.) The survey invited respondents who met the criteria to continue the study, to consider volunteering for an individual interview and online course observation. To qualify for continuation, respondents had to have been using the online LMS for teaching with a blended or distance course, rather than as a course material repository. They must have taught using the online LMS for a minimum of three semesters, and they must have carried out major changes to the design of their course over a minimum of three semesters. Eight respondents who met the criteria volunteered for the individual interview.

### **The interview**

Semi-structured questions allow participants to express their thoughts, providing a more accurate reflection of their thinking (Bennett, Foreman-Peck, & Higgins, 1996). The purpose of the semi-structured interview was to explore in depth, the teaching practices *early adopters* used in the classroom, and how they adapted and developed teaching strategies for the online environment. The interview questions are based on Ramsden's

(2003, pp. 215-216) framework for *evaluating and recognising effective teaching*. (See appendix C.)

Of the eight survey participants who volunteered to be interviewed, four interviews were held in a private meeting room and the other four in participants' personal offices. Each interview took between 45-90 minutes to complete and was recorded onto cassette tape. Although participants had received the questions prior to the interview, the interview process was conducted in a semi-structured and exploratory manner, allowing them to express their thoughts in an order which made sense to them. Therefore participants sometimes explained ideas out of the order they were asked and this was not discouraged.

The tapes were transcribed by myself. Participants were sent an 'Authority for the release of tape transcripts' form and a copy of the transcription to check for accuracy and to change or remove any data they felt uncomfortable about having provided. See appendix C. Transcripts were sent via internal mail in envelopes marked *private and confidential*. Participants returned the transcripts along with the signed 'Authority for the release of tape transcripts' form.

### **The observation**

The purpose of the online observation was to compare data from the interviews and complete any gaps regarding teaching and learning strategies. To do this, a form was designed with observation categories which correlated with four of the interview categories. (See appendix C.) Electronic access to the online courses was gained by giving the Blackboard Services Manager participant consent forms, listing course codes and course names. According to MUHEC approval, the online courses were available to be accessed for a period of 48 hours only. Data was gathered according to the categories on the form. The process took approximately 20 minutes per course. Student data was not collected.

## ***Data analysis procedures***

### **Managing data**

Management of data relates to a reduction in the 'size and scope' of information so that it may be reported on 'usefully and adequately' (Blaxter et al., 1996, p. 183). An *interpretivist* approach to data analysis (Blaxter et al., 1996) was undertaken, which meant that I placed my own meanings on the gathered data and compared those meanings with instances identified in the literature review. The richness of the qualitative data can make it difficult to analyse, therefore some sort of order must be arranged so that trends and issues can be identified (Bennett et al., 1996). In this study, analysis was based on *reduction and interpretation*. This process is carried out by reducing gathered data to themes and looking for recurring instances of those themes (Cresswell, 1994).

### **Content analysis**

#### ***The survey***

Survey data can be analysed by seeking patterns, themes and making comparisons, offering the findings as representative of the population as a whole (Bell, 1999; Cresswell, 1994).

### **Quantitative data analysis**

Responses to quantitative questions 1-5 were tabulated in MSExcel. Bar graphs were created in order to make comparisons of the data.

### **Qualitative data analysis**

The respondents' statements from questions 6-9 were grouped under the survey question headings. Next, each of the statements were read to identify recurring themes. Themes were identified, and summarised statements grouped under each theme. The number of times each statement was identified by more than one respondent, was tallied alongside it. Data that was noted by more than one respondent was presented in the analysis chapter.

Questions 6 and 8 provided a substantial amount of data, therefore a coding procedure was used to identify patterns for each. (See appendix D.)



### ***Individual interviews***

The interviews were transcribed by myself and data was analysed under category headings from Ramsden's (2003, pp. 215-216) framework for *evaluating and recognising effective teaching*. Due to the large amount of data and its descriptive nature, it took two phases of analysis to get the data to a place where it could be written up. The process was muddled, for example, sometimes participants would talk about a teaching strategy which was also an assessment strategy, so it could appear under two category headings. Sometimes they talked about concepts under categories which they did not relate to. Therefore, the first phases of analysis consisted of rearranging the data under framework categories. Secondly, the data was arranged in tables showing the relationship between data and the research questions.

### **Phase one analysis**

The transcripts were read question by question, gaining an overview of responses while looking for similarities and differences. Sometimes annotated notes were written in the margin of the transcripts when themes were identified or when interpreting comments. (See appendix E.) Under each framework category, data were grouped according to sub-themes. Sometimes the data was included exactly as stated by the participant and other times it was summarised. (See appendix F.) This was a very complex phase, and sometimes data were moved to other categories. It appeared that data from interview categories A and B seemed to contain similar themes. Therefore I thought of combining the data and placing it under one main category. To do this, I made a copy of the data, cut up comments from both categories and reorganised them under similar themes. Once I had done this, I found I was able to recontextualise the themes back under each of the category headings. In effect I had achieved what Cresswell (1994) calls a process of *decontextualising and recontextualising*. This involves breaking down data and building it back up again to refine themes and reorganise categories in a meaningful way.

### **Phase two analysis**

At this point I analysed the phase one data again, reorganising the data in a table showing relationships between the themes and the research questions. (See appendix F.) The number



of times each concept or process was identified by more than one participant was noted. This final method of analysis provides a much clearer account of the results. Teaching strategies mentioned more than once are included in the analysis. However, owing to the nature of this case study - a single institution, with a small sample of participants and a wide range of questions - I decided also to select interesting and unusual examples of teaching strategies mentioned by only one participant. I acknowledge that the process of selecting teaching strategies was subjective (Blaxter et al., 1996).

### ***Observation***

Data from the survey and interviews was analysed before the observation of online courses were carried out. It was deemed that if there were gaps in the prior data, these might be completed during observation. As I had not analysed each interview separately at that stage, I was not able to look for specific gaps relating to each participant's online course. As there were no obvious gaps in the data, I looked for evidence to confirm teaching strategies that were reported in the initial analysis. The process was straightforward, but it was not always easy to find my way around the online courses to find the information. The main advantage of the observation was that in observing the teaching strategies online, it made clear to me what participants had explained. Data from the observation was included with the interview analysis only if it was different.

### **Limitations of the research**

#### ***Confirmability of data***

The data gathering methodology was based on the principle of *triangulation*. Blaxter et al., (1996) suggest that two or more methods of data collection should be used to verify the validity of the information being collected. However, Cresswell (1994) suggests that, in qualitative studies, researchers cannot reach a consensus on traditional quantitative research concepts, such as validity and reliability. Alternative criteria for judging the quality of qualitative research are *trustworthiness*, *confirmability* and *transferability* (Denzin & Lincoln, 1998).

Taking these concepts into account for this qualitative study, *triangulation* is about consistency of the results. This study intended to gather examples of teaching practices which had been adapted or developed for the online environment. Therefore each of the data gathering tools was designed to gather aspects of the information in one form or other. For example, one survey question specifically asked respondents to offer an effective teaching strategy they had devised. The interview questions explored teaching strategies from all areas of teaching practices. Finally, the observation compared and confirmed teaching strategies from the interviews by observing the online courses. This process of *triangulation* helps to provide the reader with the notion that the research procedures are trustworthy and that all reasonable steps to confirm results have been taken.

### ***Response rates***

The way in which user statistics are reported on the university's online database, made it unfeasible to obtain an accurate number of lecturers using the online LMS for teaching. For example, lecturers who had an online LMS course for professional development purposes, but did not teach with it, showed up in the statistics. Therefore total online LMS lecturer numbers were inaccurate and this skewed the reporting response rates.

### ***Transferability***

The reader should be made aware of the limitations of a research study when deciding if the study's conclusions may be transferable to other institutions. In this study, interview participants were *purposefully selected* from an *accidental sample* of respondents to a mail-in survey.

Owing to the difficulties in ascertaining accurate numbers of lecturers using the online LMS for teaching, the survey was sent to all lecturers listed in the online LMS *address book*. Therefore, the sampling procedure used for the survey was a type of non-random sampling called *accidental sampling*, which involved using the lecturers who were immediately available for this study (Bouma, 1993). A major disadvantage of an accidental sample is that it is not deemed to be representative of population, as the results only apply to the sample studied (Bouma, 1993).

However, it was important to interview lecturers who had redeveloped their courses over time, therefore it was determined that the survey would facilitate the *purposeful sample* for the interviews of *early adopters* who had redeveloped their teaching practices over three or more semesters. Selecting a purposeful sample requires the researcher to use his or her own judgement about the individuals or groups to be studied (Bouma, 1993). Accordingly, any conclusions from the study should be qualified on the basis of a *purposive sample* (Bouma, 1993).

### ***Summary***

This chapter established that the study was carried out using a mainly qualitative approach bound by a case study method, to investigate the experiences of *early adopters* in changing their thinking about teaching practices for the online environment. The tools used to gather data were mail-in surveys, semi-structured individual interviews and online course observations. Data analysis was based on a method of *reduction and interpretation*, reducing concepts and processes to patterns and themes under Ramsden's (2003) framework for *evaluating and recognising effective teaching*. The findings of the data analysis are presented in the next chapter.

## CHAPTER 4: Findings

The aim of this study was to investigate how *early adopters* changed their thinking regarding teaching practices for the online environment, in a single medium-sized New Zealand university. The study used a qualitative approach, with a case study method to investigate how *early adopters* adapted and developed their classroom based teaching practice for the online environment, the effect of online teaching practices on their students' learning, and the types of professional development lecturers engaged in to learn about online teaching practices.

A mail-in survey, semi-structured interviews and observation of online courses were used to gather data. The survey questions were designed to determine eligibility for the interview and online course observation, as well gathering data about professional development activities from a wide sample of the population. The semi-structured interviews were undertaken in order to determine rich descriptions of teaching practices from *early adopters* who had redeveloped their online courses over a period of three or more semesters. The participants who provided data for the interviews and online course observations, used the online LMS for both blended (a classroom session and an online session) and fully online teaching (minimal or no contact over the semester). The online course observations provided an opportunity to compare information gathered from the interviews.

In this chapter, the results of the survey are presented first. Then the combined analysis of the individual interviews and online course observations are presented.

### *Survey findings*

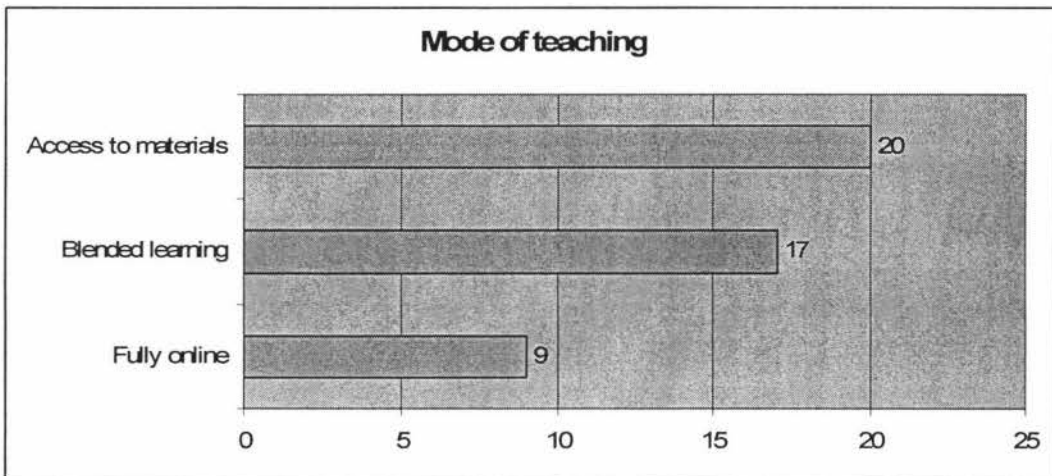
Of the 225 surveys sent to lecturers enrolled in the online learning management system, 39 were returned, 31 were returned fully completed, 2 were returned owing to resignation, 2 declined to participate, and 4 were returned with the comment that they did not use their online LMS course for teaching.

The reason for the low response rate to the survey may be due to the way in which online LMS statistics are reported, making it difficult to identify lecturers who use it for teaching.

The online LMS reports the total number of lecturers enrolled on the system, not the number of lecturers who actually use their courses for teaching. Lecturers who have had courses created for training purposes and those enrolled in courses to facilitate teaching teams, appear in the statistics. Therefore the number of online LMS lecturer numbers are inaccurate and this may have skewed the response rates. The actual number of surveys contributing to the following data is 31.

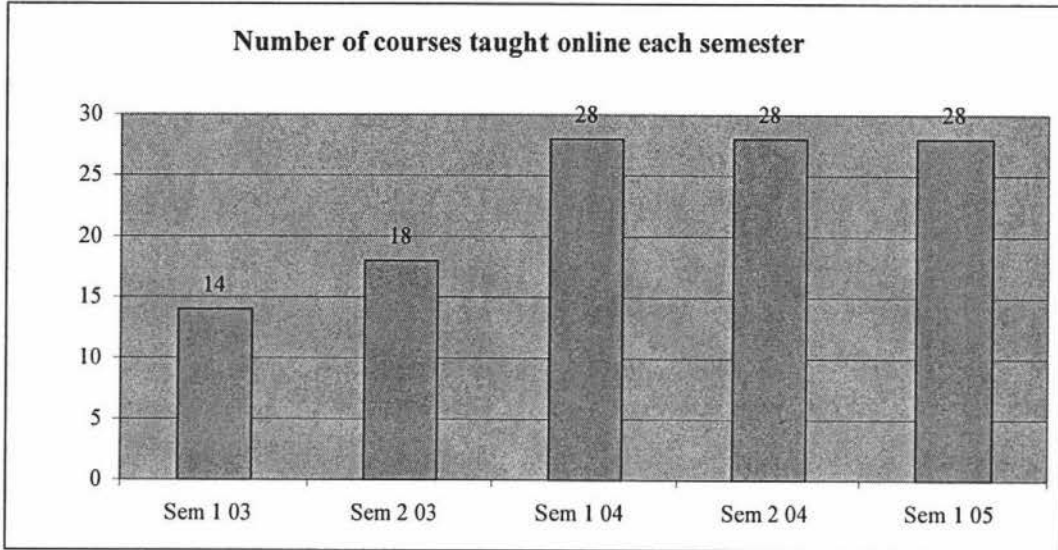
Questions 1-3 were designed to help identify respondents' eligibility to participate in the individual interview and online course observation.

**Graph 1: Mode of teaching**



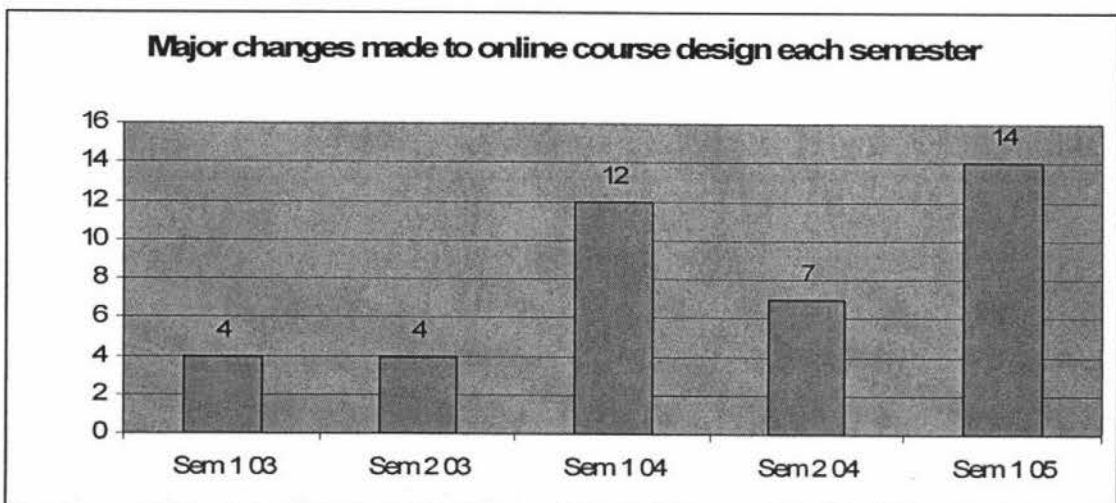
*Q 1: How do you use the online LMS? Tick as many as required.*

The university uses three modes of learning. To be eligible to continue the study, respondents had to have used the online LMS for blended learning or fully online modes. In this study just over half of the respondents used the online LMS in blended and fully online modes.

**Graph 2: Number of courses taught each semester**

*Q 2: In which semesters have you taught a course using the online LMS?*

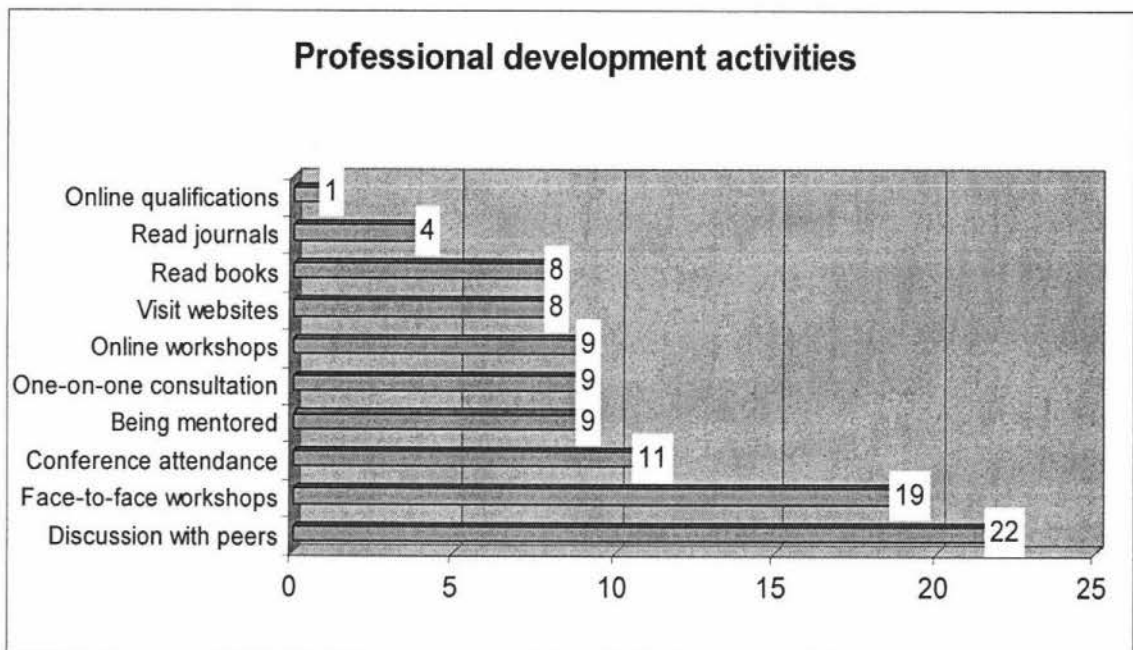
Question 2 asked respondents to state in which semesters they had taught online courses. To be eligible to continue the study, respondents had to have taught online for a minimum of three semesters.

**Graph 3: Redevelopment of online course design**

*Q 3: In which semesters did you carry out major changes to improve the design of your course/s in the online LMS?*

Question 3 asked respondents to state in which semester they had carried out major changes to improve the design of a course. To be eligible to continue the study, respondents had to have carried out major changes to the design of their online course/s over a minimum of three semesters.

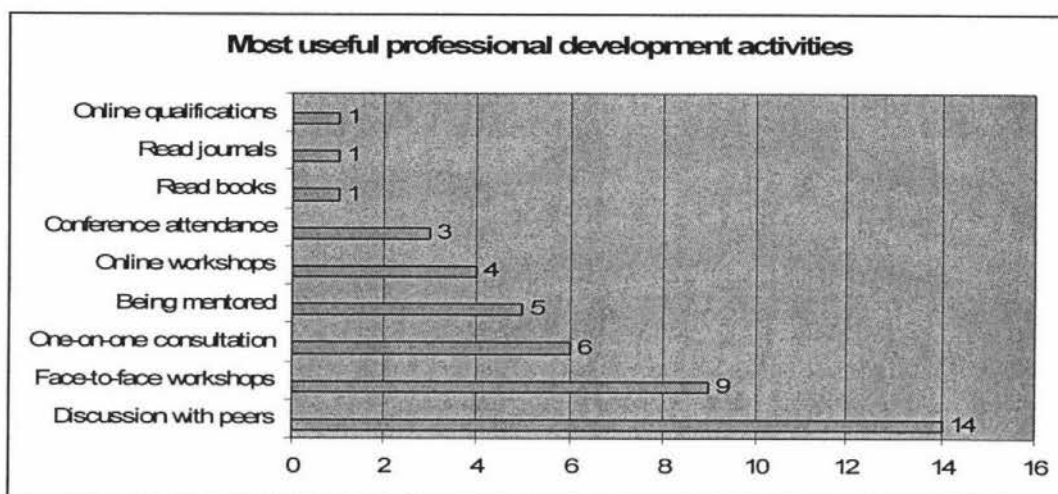
**Graph 4: Professional development activities undertaken**



*Q 4: Tick any of the following professional development activities you have engaged in to develop your knowledge about online learning.*

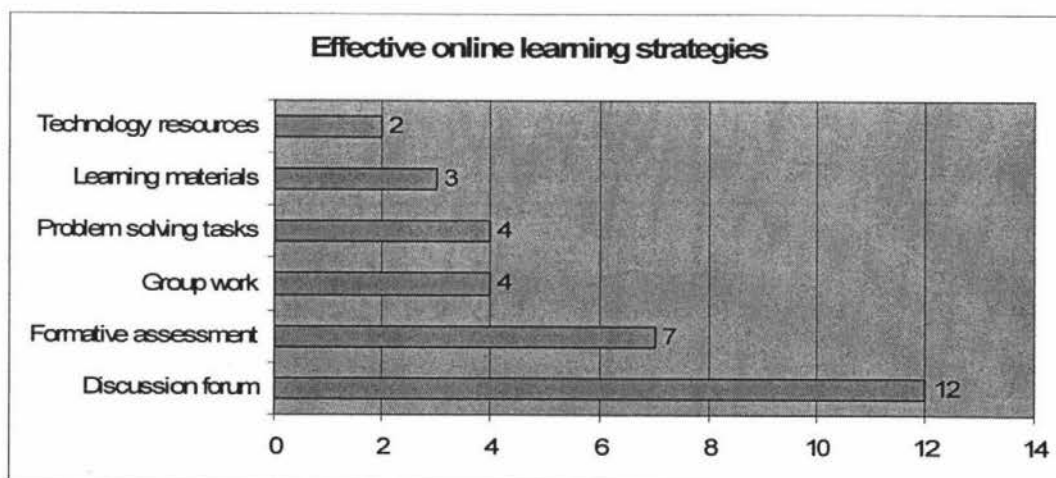
The most common activities undertaken were discussion with peers, face-to-face workshops and conferences. In this study, one-on-one consultation refers to an academic developer visiting with a lecturer to help them with pedagogical and technological aspects of online learning. Reading journal articles and studying for qualifications in online learning were the activities least frequently carried out.



**Graph 5: Useful professional development activities undertaken**

*Q5: Choose the three professional development activities that were most useful to you*

The most useful activities were discussion between peers, face-to-face workshops and one-on-one consultation, followed by mentors, online workshops, conferences, journals, books and study for online qualifications. Although websites were the seventh ranked activity undertaken, it was not selected by any of the respondents as a useful activity.

**Graph 6: Most effective online learning strategy**

*Q 6: Describe the most effective online learning strategy you have devised for your students. How do you know it is effective?*



In all categories, participants cited feedback from students and online LMS course statistics as ways of knowing that their stated strategy was effective. A minority did not say or did not know why they thought their strategy was effective.

### ***Discussion forum***

The majority stated the discussion forum was the most effective strategy. Reasons given were: participation encouraged self-directed research; access to ongoing feedback about progress; and positive interactions between the whole class. Quiet students and *English as another language* (EAL) students had the opportunity to participate and interact with their peers, which might not have happened in the classroom.

### ***Formative assessment***

Some respondents used the online LMS test function to create online quizzes. Owing to the repeated use of online testing, respondents felt their students were better prepared to attend classroom sessions and that the feedback within the online LMS test function provided information to students about their progress.

### ***Group work***

A major theme was students learning from each other. Respondents described a variety of activities in which their students gave feedback to peers and received feedback on their own progress.

### ***Problem solving tasks***

Respondents suggested case studies and problem based learning tasks were effective as they stimulated curiosity, encouraging discussion and the development of knowledge. It was noted that online, students can be forced to engage with problems throughout the course, with the problems presented becoming progressively complex.

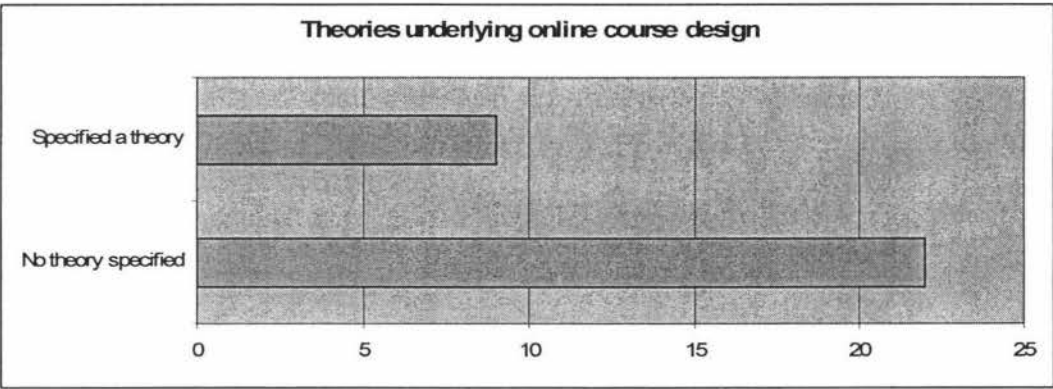
**Learning materials**

Students appreciated access to online materials both at home and at University. Respondents posted a wide variety of materials, including those they perceive as helping students with language difficulties and providing exemplars showing standards of excellence required.

**Technology resources**

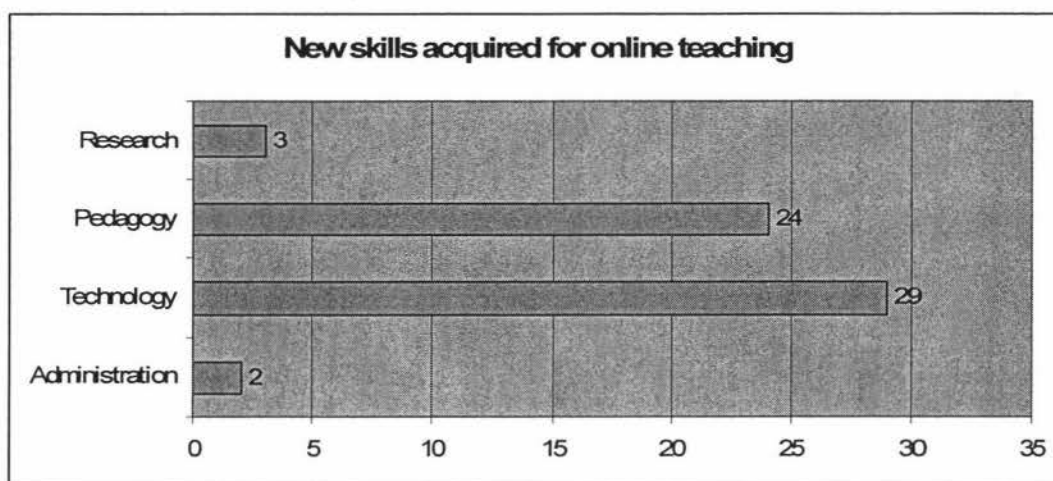
Some respondents stated that video triggers and animations used to demonstrate interpersonal and assessment skills were motivational.

**Graph 7: Theories underlying online course design**



*Q 7: Are there any specific theories or theorists you have based your online course design on?*

A majority of respondents said they did not use a theory or theorist on which to base the design of their online course, with some stating they used *trial and error*. Fewer than half of the respondents based their course design on specific teaching theories. Four respondents said they used constructivist theories.

**Graph 8: New skills acquired for online teaching**

*Q 8: Comment on any new skills you have learned as a result of using the online LMS.*

Skills have been themed into three categories: administration, technology and pedagogy. These categories are used for questions 8 and 9.

#### ***Administration***

Time management and organisation skills improved for a few respondents. Increased responsiveness to students' needs, and planning the course ahead of time was also stated.

#### ***Technology***

A majority of respondents stated they had learned online LMS functionality. Some respondents had learned about HTML, digital images, file manipulation, Internet skills and improved their basic computer skills.

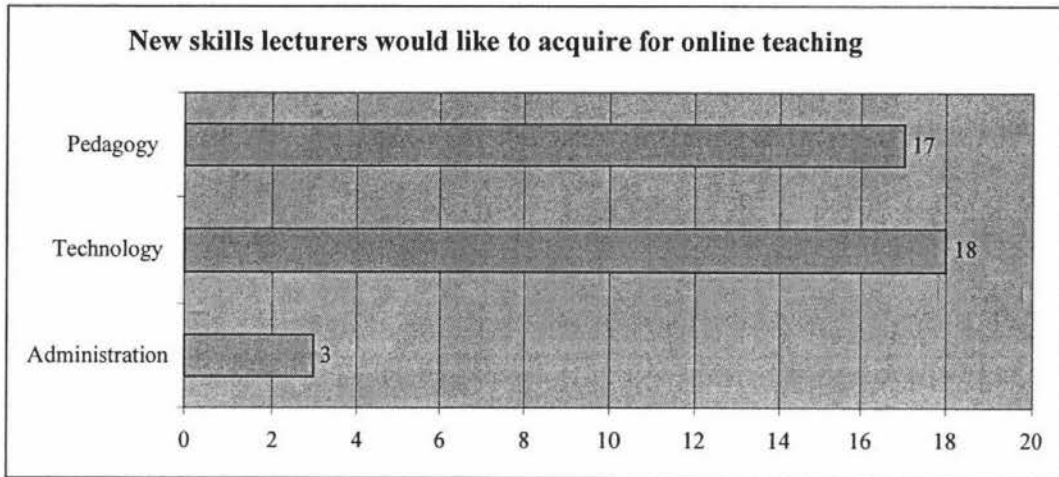
#### ***Pedagogy***

Most commonly mentioned were facilitation of discussion forums, development of self-directed and interactive learning activities. Some respondents explained that they tried to understand about the *construction of learning*, in order to carry out a detailed analysis of tasks, in order to determine the steps involved in the design of an online learning activity.

### Research

Teaching in the online environment provided research opportunities for some respondents. Drawing on recent online experiences, they had learned new skills regarding public speaking for conferences, design of poster presentations and how to write funding grants.

**Graph 9: New skills lecturers would like to learn**



*Q 9: What new skills would you like to learn regarding online teaching practices?*

### Administration

A few respondents wished to learn more about reducing their workload.

### Technology

The largest response from respondents was to learn more about the online LMS functionality and more advanced computing skills. Respondents wanted to learn about audio, image and animation files, online portfolios, digital narrative and e-library skills.

### Pedagogy

A majority of respondents wanted to learn how to develop online assessments which required students to demonstrate analytical skills and understanding of theories, rather than answer multiple choice questions. Some wanted to develop advanced skills in effective

discussion forum facilitation and group management. Others wanted to develop skills in course design for interactive online learning. Finally, some respondents wanted the opportunity to see and discuss examples of online teaching practices with their peers.

### ***Summary of the survey results***

The results of this survey show that more respondents used the online environment for both blended learning and fully online courses than simply to provide course materials for their students. The most common professional development activities undertaken have been discussion with colleagues, face-to-face workshops and conferences. However, the three most useful professional development activities were discussion with colleagues, face-to-face workshops and one-on-one consultation. The most effective online teaching strategies respondents had devised for their students were discussion in forums and formative assessment activities. Respondents stated that they had developed a majority of new skills in the areas of technology and pedagogy and wanted to develop more skills in those same areas.

### ***Overview of interview participants' online courses***

The interview participants taught within a variety of undergraduate and post-graduate programmes. Of the faculties represented, three participants were in Business, four in Health and one in the Careers centre. Participants taught in combinations of blended and fully online courses. The questions used for the interview were based on Ramsden's (2003) framework for *evaluating and recognising effective teaching*.

### **Fully online courses**

The three fully online courses did not use any technology based resources. Two courses were at post-graduate level and heavily discussion based. Case studies were posted online and website links were created for access to learning materials. The third course was a self-paced careers course, using website links to access resources and the online LMS test function for assessment.

**Blended learning courses**

Five graduate courses were taught in a blended learning mode of one classroom session and one online session weekly. A wide variety of teaching strategies, technology resources, and online LMS functions were used.

**Online course observation**

Seven participants agreed to their online courses being observed with one participant not running their online course during the data collection period. Confirmation of data regarding planning of courses, learning strategies, feedback to students and assessment information was actively searched for. Observing this information online made it easier to understand the descriptions participants provided in their interviews.

***Individual interviews and online course observations***

This section analyses the combined results of eight individual semi-structured interviews and seven online course observations. Findings are categorised according to the interview questions.

The following terms are used to convey the findings, which are represented by the number of times participants provided data:

6-8 a majority of participants

4-5 half of the participants

3-4 some of the participants

1-2 a few of the participants

## **(A) Planning and purpose**

### ***1. How do you promote student learning. Has this changed in your online course, if so how?***

#### ***Promoting student learning***

A few participants made decisions regarding the type of content that would be best taught in the classroom or online.

Participants wanted to encourage students to carry out new learning experiences online and to demonstrate their learning in the classroom. Some participants suggested the online component of a blended course relied on student discovery and collaborative experiences. One participant deliberately focused on potential audio and visual capabilities for online learning strategies.

A majority of participants required their students to be self-directed in their learning. They wanted students to take responsibility for their own learning, and to work independently, in order to develop problem solving skills, critical thinking skills, research skills and to expand knowledge.

A few participants thought post-graduate courses were more interactive online and had less lecturer input, whereas undergraduate courses required more lecturer input and instruction.

Some participants tried to ascertain students' prior knowledge in the online environment. One observed they did this in the classroom, but not online, and might adapt the strategy using the online LMS survey function. A few lecturers thought that technology in the form of online interactive diagrams and animations, allowed tactile and visual students' learning styles to be taken into account.

Some participants developed group work based on problem based learning strategies, with one participant stating that she had discarded it in the classroom because it took students too long to find information. However, in the online environment students worked faster because links could be made to websites and the e-library.

A majority of participants suggested that with classroom teaching, learning materials such as textbooks and readings were the main source of knowledge for students. However, new sources of online information were seen to be more relevant and up-to-date than printed materials. Participants expected students to use learning resources to expand on knowledge acquired from readings, for example, video triggers, websites, animations, movie trailers and e-journals.

Findings showed that a majority of lecturers used their online course for the classroom environment. Participants explained that it was difficult to access and organise audio visual equipment, therefore they used their online courses in the classroom, demonstrating websites, video triggers and other visuals.

2. *Think about the kinds of learning experiences (for example, social and interaction activities) you arrange for your students. Have they changed in your online course, if so how? Why are these experiences appropriate?*

### ***Collaborative learning***

A majority of participants observed that communication between students had been limited in their classrooms. A few participants observed that in the classroom, discussion revolved around and was led by the lecturer, with the use of PowerPoint presentations. A majority of participants in both the survey and interview thought collaborative learning through discussion forums was the most effective online teaching strategy. The online discussion and group forums were seen by the majority of participants as an easy way for students to communicate when undertaking individual or group activities. A majority of participants adapted discussion strategies to have students leading them in the online environment.

A majority of participants required their students to interact online through discussion strategies, stating that it worked well. However, one had difficulty in getting students to discuss online. On the other hand, half of the participants allocated summative assessment marks for discussion strategies. One participant told her students that online discussion was *compulsory*, although they were not assessed. One participant said assessed forums reduced lecturer stress as they did not have to worry about making students participate.



Participants had to find a balance when facilitating online discussions. For example, lecturers thought their presence could stifle conversation, on the other hand, students were more likely to answer their own questions when lecturers did not immediately respond. Findings showed *lurking* (students reading discussions without participating) could be compared to the classroom where some students interact and others listen.

A majority of participants in both the survey and interview used the online LMS group function to facilitate group work. Some lecturers thought online groups were motivated and competitive. Some lecturers noticed group members prompting each other to complete work, as the online record made it clear who was working and who was not.

**3. *Think about how you make clear to students what they have to learn. How do you do this in your online course?***

***Online course preparation***

The online course observation of seven participants confirmed that the data presented below was posted for students to access.

All participants provided hard copies of course information including prescriptions, learning outcomes, administrative and assessment information, resulting in fewer questions being asked about it.

Course materials, for example, readings, case studies, website addresses are provided by all participants in hard copy format. However, participants endeavour to post all course materials online or on CD-ROM, as it was thought that students are more likely to use websites when linked from the online LMS.

Exemplars of student work which are stored in the library, were posted by half of the participants in their online courses to provide easy access for students to view them.

Some participants created topic units of work in online folders. Each unit provides learning outcomes, course materials, technology resources, and direct links to discussion forums/group forums. This reinforces the importance of using learning outcomes to inform students what they are required to cover and do.

## **(B) Process**

*Think about the teaching strategies you use and how closely they are focused on student learning. What teaching strategies do you use in your online course and how closely are they focused on student learning?*

The online course observation of seven participants confirmed the teaching strategies presented below.

A majority of the participants developed teaching strategies which required students to read widely and to learn from case studies, role plays, websites, e-journals and CD-ROMs. Once these individual or group strategies had been attempted, participants expected students to collaborate in discussion forums to discuss their findings, asking and answering questions of each other in order to develop critical thinking.

### *From tactile games to online games*

A few participants used interactive games in the classroom, for example, one game involved identifying actual health products and what they should be used for. As tactile games cannot be demonstrated online, an adaptation occurred, linking students to websites to view photographs of the products. Matching card games were adapted by creating interactive online drag and drop diagrams.

### *From role play to online video trigger*

A classroom role play was created to allow students to practise interpersonal skills required for the workplace. It consisted of health students assessing a *patient* by observing their behaviour and asking questions. However, this did not work well. The participants found few students responded to the actors for a number of reasons: male students were abrupt and stifled discussion, many students were too shy to interact, and some were reluctant to hold up the class with questions when the session was nearly at an end. Therefore the role play was adapted for the online environment. Actors were filmed and footage was stored in a CD-ROM format. The CD-ROM was sent to all students enrolled in the course. A link was made to the CD-ROM within the online LMS. Students clicked on the link to see a

*video trigger*, a scene which they had to assess. Students then discussed their findings in the discussion forum with peers. This change in environment has resulted in older women and EAL students entering the discussion, as well as students asking each other what they thought of the situation, which did not happen in the classroom.

### ***From paper based case studies to online stories***

A few participants who liked to use stories of peoples' experiences, developed digital autobiographies for online, using text, images and audio. Students viewed the stories and discussed their reactions to them. The online course observation of the self-paced careers course, provided an example of a story in which the learning experiences of previous students were used to inspire new students.

### ***From essay writing to visual diagrams***

Students practised essay writing for assessment but found it difficult. A few participants provided their students with the opportunity to demonstrate their knowledge of concepts by presenting them visually, using flow chart or diagram software, along with the preparation of a shorter essay. The participant's view was that she could tell from the diagrams the students really did understand the concepts they had illustrated.

### ***From paper based quizzes to online quizzes***

A few participants adapted paper based tests by creating short answer quizzes in the online LMS test function. They believed the test function process motivated students, providing feedback which prompted them to study further when they got an incorrect answer, and that it prepared students for summative assessment.

### ***Theory to practice***

Relating theoretical concepts to practical application and the development of critical thinking skills was acknowledged by participants as being difficult for students. Online discussion forums were used to develop critical thinking skills, encouraging students to acquire information from a variety of learning materials and technology resources, ask and

answer questions of each other, form opinions, engage in debate and share knowledge in the online environment.

### ***Peer feedback***

A few participants felt that they could not undertake peer learning in class, owing to a lack of time. They developed peer review processes for online, which were described as particularly effective for post-graduate students. Students commented on each other's draft assessment work in private group forums, gaining exposure to each other's writing, different perspectives on topics and experience of marking grids. An issue for one participant was how to assign students to groups. Students suggested some were comfortable critiquing a friend, while others were not, enabling him to accommodate both requests. However it was pointed out that lecturers have less control over peer learning, so it was very important to make clear to students the process of critique. The participants said that some of the groups did not do this activity well, so he intends to look at ways of making instructions and processes clearer next time.

### **(C) Feedback**

*Think about the ways in which you provide feedback to students. Has this changed in your online course, if so how?*

The online course observation of seven participants was unable to confirm all of the data presented below, owing to student information being deleted from the course at the end of the semester.

A majority of participants observed that owing to the number of available online channels, students got more feedback and more timely feedback on their progress. While participants stated they used verbal feedback in the classroom, they thought it might be forgotten, and suggested that feedback posted in the discussion forum was valued more by students because it was permanent.

Written feedback was provided for draft assessments in both environments. Students sent their drafts via email or the online LMS *assignment facility* and comments were typed and

sent back by the lecturer. This feedback proved to be faster online as it cut down on paper handling time. A few participants said they were looking into ways of cutting down draft marking due to large cohorts of students, and one was thinking of increasing peer feedback strategies.

Written feedback was also provided by a majority of participants on general student learning in the discussion forums. Some forums were specifically created to give feedback on individual activities, group activities and assessments.

#### **(D) Assessment of students**

*Are the assessment methods you use the best for achieving learning outcomes? How do you use assessment information to improve teaching in your online course?*

The online course observation of seven participants confirmed that assessment information was posted for students to access, as well as the assessment methods presented below.

Participants used a combination of traditional and technology based summative assessment methods. Half of the participants achieved the learning outcomes using traditional examinations and essays. Upon reviewing assessments for online, six participants specifically created online assessments to match learning outcomes. Five participants said they changed from essays to try to develop authentic assessments which would encourage students to think like workers, carrying out practice as they would in the workplace. Only one participant thought the assessment did not meet learning outcomes, stating it was close to real life, but too theoretical.

#### ***Summative assessment activities***

The following examples of assessment methods were also learning strategies, carried out as part of ongoing, assessed course work.

#### ***LMS Test function***

The participant who taught on the fully online, self-paced course, reviewed her assessments when moving online and found them inadequate, realising that not all of the learning

outcomes were being assessed. Therefore she adapted the assessment by creating five tests in the online LMS test function which she believed worked much better for self-directed learning.

### ***Discussion forum participation***

A majority of participants allocated marks for the number of discussion forums students participated in, or led, with a few participants allocating marks for the quality of their thinking. Three participants chose to allocate assessment marks to enforce online participation.

Although forum marking was found to be subjective, it provided a record for judging student learning, as lecturers could see the extent to which students were applying concepts or if they were just evaluating ideas. One participant suggested he would like to value the online comment higher, because although it was a dominant part of the course, a disproportional number of marks were allocated to it.

### ***Discussion leader***

A discussion forum strategy developed by a few participants required students to act as a teacher, preparing and leading discussions around topics. Leaders were required to summarise articles, devise relevant questions and lead the discussion about the article. Lecturers found it useful to have students designing questions as they tended to ask them at the right level.

### ***Team problem solving project***

A participant adapted a group project to represent an authentic assessment activity for online. The process required the participant to act as the client. She would visit online group forums at specified times so students could ask her questions and determine the specifications for the project brief. She felt it important that she did not give too much information to students, as this was giving them the answers. Students develop the project keeping *in touch* with the client throughout the semester. In terms of group processes, students met online or face to face. The participant did not specify how groups should carry

out the work as long as it was done. However, when groups completed their work online, a record was available to see who was keeping to their roles and who was doing the work.

### ***Creation of a product***

A few participants in the health promotion subject area used technology external to the online LMS, to engage students in creating authentic products for assessment. For example, radio advertisements, promotional posters and work portfolios, which are summatively assessed. Difficulties were in accessing required hardware and software, having to learn how to use the technology and teaching it to students. However efforts were worthwhile as students were proud of their products and they could take them to prospective employers.

### **(E) Outcomes**

*What are the effects of the online environment on the quality of your students' learning?  
How do you know?*

A majority of participants thought that online learning was of a higher quality than classroom learning and that the quality of their students' learning improved owing to online teaching strategies. Only one participant thought that although students were not getting better, they were not getting worse as a result of online learning. Participants felt that in general, student learning in the online environment is deeper, more interactive and collaborative than in the classroom environment.

### ***Deep Learning***

Participants thought that deeper learning occurred for a number of reasons. The class does not end, as a face-to-face one does, therefore discussions continue and get deeper. Some participants stated the online course provided a record of learning, making it easy to observe what students are learning and how they participate in learning processes. Lecturers can *push* students to delve deeper into their experiences. For example, the students first to answer a discussion question will often post the most obvious answer, so those who come after them have to research further and more deeply to provide an alternative. A few participants felt students made an effort to critique their writing more



thoroughly before posting, due to the public nature of the forum. One participant stated that if students were discussing a topic in a shallow way, she would close down the forum and move the students on, into a deeper learning situation again. Others thought learning improved because students were directed more closely to learn specific concepts, resulting in students with a far better depth of knowledge than they would have received in the classroom environment.

### ***Quality of work***

A few participants observed that the quality of student work, exams, assignments and peer critiques had improved. Students take on a competitive nature in terms of improving their work. They look at exemplars from previous students and try to improve them. A few participants felt students were more confident going into practice situations, because of the authentic types of learning experiences they had online.

### ***Collaborative learning***

Participants suggested that the online environment encouraged interactive learning between students, with half suggesting students complete more work online than they do in the classroom.

Participants noticed that students take more responsibility for their own learning, contributing to forums, peer review and general knowledge sharing. However one participant observed that students who are not disciplined struggle, so it may not be quality learning for them.

## **(F) Reflective self-evaluation related to online courses**

***What steps have you taken critically to evaluate your own work? What is the range and depth of evidence that you use? What have been the effects of improving your students learning?***

All participants used a variety of evaluation methods in order to gather data about their online courses on a regular basis. This data was taken very seriously and used to implement

student suggestions to improve the courses. The importance of being responsive to students' needs came across in the interviews.

### ***Student evaluation***

All participants collected a combination of end-of-session student feedback, anecdotal student feedback, end-of-semester teaching evaluation, end-of-semester course evaluation and university evaluation forms, administered by the professional development unit. A few participants observed that current evaluation forms did not contain questions about online learning and wanted the university to adapt them. Some participants thought they would create their own online evaluation forms using the online LMS survey function.

### ***Self-evaluation***

Participants collected additional data through evaluation of the discussion forums which provides a permanent record of what happened in a course. Participants read through forums to see where improvements could be made, by asking questions of themselves. For example, "Were my comments adequate?", "Was the material relevant?", "Were postings and questions relevant?". Once the *ingredients* which made the course work were found, elements that did not work were discarded. A few participants thought that evaluating the online environment and making changes enhanced the teaching process. *"It took time, it took about three occurrences before it finally clicked that I need to do something different here."* (Participant N, fully online course, p. 13, lines 1- 2)

### ***Self-evaluation***

Participants felt online lecturers could learn as they go, but needed to be aware of what was possible in the environment. One participant said that the online LMS did not motivate the students, it was the environment that the lecturer created which motivated the students.

*"Part of the process is being aware of what can be done".* (Participant M, p20, line 8)

### **(G) Communication and scholarship related to online learning**

*What have you done to learn from other teachers and to share your insights with other teachers? What steps have you taken to apply the best available evidence to improve your practice?*

#### ***Learning from others***

A few participants said they gleaned examples of teaching practice from their colleagues. One participant saw a colleague using a *video trigger* in an online LMS and it made her think about creating a narrative which could be used many times in her own courses. One participant stated the university website did not have enough 'best practice' examples.

#### ***Sharing with others***

Half of the participants thought that talking informally with colleagues was a way of sharing teaching practices. One participant said she would like the opportunity to talk regularly with colleagues as they were the best source of ideas. A few participants published papers, gave conference presentations and participated in online forums.

#### ***Improving teaching practice***

Little information was given about improving teaching practice, however self-critique, feedback from students, and trial and error were mentioned.

### ***Summary of findings***

The findings of the individual interviews and online course observations, correlate with the survey findings.

Participants posted as much administrative information online as possible for their students to access. Online discussion in forums was the most effective online teaching strategy mentioned by participants. Discussion and group forums were used to encourage self-directed research and positive collaboration between all of the students in the class. A majority of participants developed a wide variety of teaching strategies based on group

work, problem solving and the use of technology resources. A majority of participants provided more timely feedback online, with written feedback being the most popular method.

Owing to the teaching strategies participants employed in the online environment, they suggested that online learning was of a better quality than in the classroom.

Participants found they lacked examples of effective online teaching practice, and some used a *trial and error* approach to course design, rather than basing the course on educational theories.

Some participants wanted to learn how to design interactive online courses. They wanted to understand about the construction of learning so that they could create interactive teaching strategies. Participants wanted more professional development in online discussion forum facilitation and group management. They also wanted to learn how to create online assessments which demonstrated analytical skills and an understanding of theories. Participants wanted to develop further skills in the use of the online LMS and other technologies. Finally, participants asked for opportunities to discuss online teaching practice with colleagues.

Chapter five will discuss the implications of these findings in the context of the literature review.

## CHAPTER 5: Discussion

Chapter four presented the analysis and findings of the mail-in survey, individual interviews and online course observations.

This study has investigated how *early adopters* adapted and developed their classroom based teaching practice for the online environment, the effect of online teaching practices on their students' learning, and the types of professional development lecturers engaged in to learn about online teaching practices.

Of the interviewees, three participants taught on fully online courses and five taught blended learning courses. This chapter discusses the implications of the findings in the context of the literature review. Discussion is presented using the research questions as headings.

### *Adapting and developing online teaching practices*

#### **Question 1**

**What teaching practices have early adopters adapted and developed for the online environment?**

These findings relate to how *early adopters*, identified as *lecturers* in this chapter, have adapted and developed the design of their courses for the online environment over a period of three or more semesters.

#### **Online course design**

Findings showed that most of the lecturers in the study did not base the design of their online courses on educational theories. Very few lecturers specified they used a theory and only four lecturers stated they used a constructivist approach to develop their course design. The findings showed that some lecturers thought it was acceptable to use a *trial and error* approach when adapting their courses for the online environment. Additionally, lecturers

thought they needed examples of what could be actually done in the online environment, in order to do it well. This confirms research by Milne & White (2005) who suggest that lecturers do not have enough information about effective practice for online teaching, and Torrisi-Steele & Davis (2000) who found that lecturers wanted to access the experiences others, regarding online teaching.

Findings showed that a majority of lecturers thought it was useful to plan new learning experiences for students in the online environment, and expected these experiences to be demonstrated or reviewed in the classroom session. A few lecturers thought classroom teaching revolved around the lecturer, who led discussion aided by PowerPoint presentations. This concurs with a number of researchers who describe a teacher-centred approach in which the lecturer is seen as the expert, directing learning through discussion and demonstration (Phillips, 2005; Roblyer et al., 2003).

One research participant in this study, explained she had difficulty in getting students to carry out in-depth online discussion and this was a cause of much concern to her. Over a number of semesters she observed that her course was too structured, provided too much information and that her questions were too simplistic for discussion. In light of these findings, it would appear that the lecturer is using a teacher-centred approach, whereby the online information is used to transmit knowledge to students who are expected to remember it (Roblyer et al., 2003). Accordingly, students' knowledge is tested by asking lower level cognitive questions in discussion forums, requiring students to reiterate what they have remembered, overemphasising factual knowledge (Lin & Gronlund, 2000) and providing limited opportunity for discussion. When lecturers transfer teacher-centred approaches to the online environment, student learning may be compromised and lecturers can lose confidence in their abilities (Roslin Brennan, 2003).

Findings showed that the lecturer with difficulties decided to adapt the course by reducing the amount of structure and information, in order to encourage students to do more research and thinking, and to increase online collaboration. This suggests the lecturer had changed her thinking regarding the types of learning processes students should engage in online. The lecturer planned to develop a student-centred environment which encouraged students to develop metacognitive processes through independent work and collaboration (Isackson,

1999). The approach concurs with Torrisi & Davis (2000) who argue that research and critical analysis are best developed with student-centred approaches to learning, giving students the opportunity to engage constructively with learning materials.

### ***Evaluation of online course design***

Findings showed that all lecturers collected a variety of student evaluations throughout the semester. Lecturers should evaluate their teaching in order to inform successful online course design (Young, 2004). A few lecturers observed that the forms did not contain questions about online learning and felt the institution should adapt them. Some lecturers thought they would create their own evaluation forms using the online LMS survey function. This concurs with McFadzean & McKenzie (2001) who recommend that online sessions be evaluated by students through the use of LMS functions.

Findings showed that lecturers used self-evaluation methods to help them evaluate their online teaching and course design. As the online environment provided a permanent record of what happened in a course, lecturers said they read through forums looking for the *ingredients* which made the course work well, and discarded the practices which didn't. The findings showed that lecturers were strongly responsive to students' needs, adapting and developing the course as they suggested. Lecturers who reflect on and question their teaching practices are likely to bring about changes in teaching practice (Torrisi-Steele & Davis, 2000).

### ***Changing thinking about teaching practices***

This study is based on a group of lecturers, called *early adopters*, who have substantially redeveloped their online course design over three semesters or more, which implies that redevelopment was necessary. This finding is summed up by one lecturer who remarked that it had taken three semesters of development to design the course to her satisfaction. These findings concur with Torrisi-Steele & Davis (2000) who found that lecturers who redeveloped their online courses over two or more semesters changed their teaching approaches, albeit with difficulty. A few lecturers suggested that it was the continual process of evaluation and redevelopment of the online course, which enhanced the online



teaching process. This concurs with Dooley, Metcalf & Martinez (1999) who suggest that change takes time and should be viewed as a developmental process.

### ***Online course preparation***

All lecturers found that in comparison with classroom teaching preparation, they had to do more online course planning and preparation before the semester started. This concurs with McFadzean & McKenzie (2001) who suggest that there is more preparation required before the semester starts and Young (2004) who concludes set up and management of online teaching requires more work of lecturers.

Findings showed that all lecturers provided hard copies of course information and course materials to students in class, but also took the time to post them in the online environment. Maharey (2002) suggests that lecturers have to make decisions about the types of resources they post in their online courses. A majority of lecturers thought the online environment provided access to up-to-date resources which could help students expand on knowledge acquired from print based materials. Findings showed that lecturers provided a wide variety of additional online resources. Lecturers said they added to traditional texts and readings by providing a wide variety of technology resources, for example, video triggers, websites, e-journals and animations. A wide range of Internet resources can be accessed by students from the links lecturers create in their online courses (Maharey, 2002). Another addition was the posting of student exemplars which are held in the library. Findings showed that half of the lecturers posted exemplars online in order to make them easy for their student to access.

A majority of lecturers said that the technology they were using for online teaching had changed classroom learning. Lecturers used their online courses in the classroom owing to the convenient way course information was located in one place and easy to access.

### **Online teaching strategies**

These findings relate to the teaching strategies lecturers have adapted or developed for use in their online courses.

Lecturers recognised that they had to create learning experiences in the online environment which motivated students, rather than relying on the online LMS itself. Findings showed lecturers thought that online learning experiences should be based on student discovery, collaboration, audio and visual technologies. The development of technology based teaching activities should revolve around the learners' use of them (Torrissi-Steele & Davis, 2000) therefore lecturers require an understanding of how to design technology resources based on sound pedagogy applied to multimedia, software and hardware technologies (Laurillard, 2002).

### *Adapting and developing online learning experiences*

Findings showed that a majority of lecturers thought communication between students was limited in the classroom, with quiet students and EAL students taking a back seat when compared with more confident students. In contrast, lecturers thought that online participation was an easy way to increase communication between all of the students in a class. These findings concur with Young (2004) who suggests that collaborative learning is more likely to happen online than in the classroom if the strategies are collaborative and social, rather than competitive and isolated.

Although a majority of lecturers thought online discussion worked well, findings showed that a majority also had difficulties in getting students to participate online at various times. Findings showed that lecturers thought allocating assessment marks to forums reduced the stress of worrying how to get students to participate. Findings showed a majority of lecturers adapted classroom discussion strategies and developed new online teaching strategies which were facilitated through whole class discussion forums and group forums. These strategies encouraged and required students to take on the role of teacher, researching and summarising information for peers and leading online discussions around a subject. Other strategies required students to carry out individual work, then discuss their findings in forums with their peers.

Findings showed that ascertaining an individual student's prior knowledge when introducing a topic was not done well in the online environment, with a few lecturers wondering how they could use LMS functions to draw out and capture students' prior

knowledge. An important factor in a constructivist approach to learning is relating new information to prior knowledge in order to construct personal meaning (Slavin, 2003; Torrisi-Steele & Davis, 2000). Therefore methods of ascertaining prior knowledge online are important for facilitating effective student approaches to learning.

Findings showed that some lecturers grappled with the balance of encouraging or discouraging conversation between students and wondering how long to wait before answering their questions. A few lecturers observed that online groups were more motivated, competitive and more likely to develop their own identities than in the classroom. This is in contrast with Young (2004) who suggests that collaborative learning should not be competitive.

Findings showed that over time lecturers developed teaching practices to encourage self-directed learning, independent work, problem solving, development of critical thinking and research skills as well as collaborative activities. These findings showed evidence of lecturers developing student-centred approaches, requiring students to engage in individual learning projects, problem solving, investigation and research (Roslin Brennan, 2003; Goddard, 2002; Young, 2004). However, Gibbs (1992) suggests that it is the degree to which course design and teaching strategies encompass motivation, active learning and interaction, that will determine whether students take a deep approach to learning.

### ***Interactive online teaching strategies***

Findings showed that *visual diagrams*, *online video trigger*, *online stories*, examples of *theory to practice* and *peer feedback* strategies described learning processes characteristic of student-centred approaches to learning (Ramsden, 2003). Additionally these strategies are examples of effective online interaction, presenting content in a way that motivates and engages students (Clarke, 2001) and are about students communicating and demonstrating thinking processes (Lynch, 2002). Young (2004) suggests that learning outcomes are enhanced when lecturers intentionally design student interactions into online courses.

### **Visual diagram**

Findings showed the *visual diagram* was an example of a strategy where students learned *with* technology in order to construct knowledge (Jonassen, 2000). In particular, the strategy is an example of students becoming designers, actively engaged in creating an online visual diagram in order to communicate understandings of specific concepts (Jonassen, 2000; Kiili, 2005).

### **Online video trigger and online stories**

Findings suggest that the *online video trigger* and *online stories* are examples of learning *from* technology, however this was balanced by directing students to discuss their reactions and findings to the information in the resources, in order to demonstrate thinking and communicative processes (Lynch, 2002). The instructional design of these strategies concur with Ally's (2004) idea that learning is influenced by the content and instruction built into the learning resources, rather than the technology itself.

These strategies are examples of student-centred approaches to learning, encouraging students to actively seek new information from the resource and relating it to prior knowledge in order to construct new knowledge (Slavin, 2003). The *visual diagram*, *video trigger* and *online stories* encourage conceptual change and development, which are associated with deep approaches to student learning (Ramsden, 2003).

### **Peer feedback**

Findings showed that *peer feedback* was particularly effective for post-graduate students, exposing them to the writing of others, different perspectives and experience of marking grids. This teaching strategy is based on a student-centred approach which places the student in the role of teacher (Laurillard, 2002) and encourages the development of metacognitive processes (Slavin, 2003). However, a few lecturers mentioned difficulties in assigning groups and making the process of critique clear to students. Bostock (2002) suggests that peer feedback is useful for providing information regarding peers' strengths and weaknesses. However students should be taught how to provide peer feedback and the

judgement criteria should be clear and based on learning outcomes (Bostock, 2002; Salmon, 2000).

### **Online games and quizzes**

Findings showed that *online games* and *online quizzes* were identified by a few lecturers as *interactive* strategies, however they did not meet Lynch's (2002) definition of effective online interaction. Findings showed lecturers thought technology provided the opportunity for students' learning styles to be taken into account, by providing technology resources such as interactive 'drag/drop diagrams', from which students could learn factual information. While multimedia can help to provide for differences in students' learning styles, programs created to help students learn factual knowledge provide limited opportunity for problem solving (Jonassen, 2000; Kiili, 2005). This confirms Laurillard's (2002) view that the design of technology resources cannot be inferred from the capabilities of the technology.

It would appear that these strategies are examples of learning *from* technology, as they deliver information to students and provide limited opportunity for problem solving (Jonassen, 2000; Kiili, 2005). The learning processes are based more on repetition and there appears to be limited opportunity for communication between peers (Lynch, 2002). While the fixed-choice tests require students to think about answers to questions, the types of questions asked are more likely to focus students on lower level thinking processes (Bostock, 2002; Lin & Gronlund, 2000).

### **Online assessment**

These findings relate to the assessment methods lecturers have adapted and developed to achieve the learning outcomes of the online course.

Findings showed that the process of moving assessment to the online environment forced a review of existing assessments and many lecturers found that not all of the learning outcomes were assessed as well as they could have been. Learning outcomes should be clearly linked to assessment activities (Bostock, 2002; Ramsden, 2003) therefore the review process was timely and worthwhile.

Findings showed that as a result of the review, lecturers specifically tried to develop online assessments which matched student learning processes in the online environment. This concurs with Laurillard (2002) who suggests that assessment processes should change, in order to correspond with student online learning processes.

Findings showed that one lecturer, whose post-graduate students continued to discuss online for six weeks after the course ended, thought that the discussion component dominated the online course, and would have liked to have valued students' contributions more by allocating higher marks to them. This initiative concurs with Salmon (2000) who suggests there is a gap between how students learn online and how they are assessed.

Findings showed that lecturers developed online assessment activities which were also learning strategies, for example, *discussion forum participation*, *discussion leader* and *team problem solving project*. Salmon (2000) suggests that as lecturers become more comfortable in the online environment, they may look for alternatives to traditional assessment methods. Findings showed lecturers required students to engage in learning activities which were summatively assessed throughout the semester. This assessment method concurs with Devlin (2001) who suggests that lecturers should consider how their chosen assessment methods will add to their students' learning experiences.

Findings showed that lecturers developed online assessment methods around technology, for example, *team problem solving project* and *creation of a product*, in order to encourage students to work as individuals or in teams, to carry out practices as they would in the workplace. This concurs with McLoughlin (2002) who suggests that collaborative processes are important when taking into account that in the workplace, people work in teams, sharing and transferring knowledge through processes of discussion, application and analysis.

### ***Discussion forum assessment***

Findings showed that many lecturers summatively assessed discussion forums by allocating marks for participation and/or thinking processes in order to encourage online collaboration. Findings showed that although some lecturers thought discussion forum marking was



subjective, some said the forums provided a record for judging student learning, enabling them to identify the students who were applying concepts and evaluating ideas. On the other hand (Laurillard, 2002) suggests that although discussion can be an effective way of judging what students know, it may not necessarily lead students to what they should know.

### ***Team problem solving project***

The *team problem solving project*, was carried out in the online LMS group forums and required teams of students to ask questions of the *client* (the lecturer) to determine specifications for a computing systems project. Findings showed that the lecturer deliberately did not offer information to the teams and instead waited to be asked for information. Teams which are productive spend more time planning and communicating with each other (McLoughlin, 2002) therefore groups who were better prepared for the interview process in this assessment method may have obtained more information from the *client*. Additionally, collaborative activities which cannot be done individually and are based on problem solving and teamwork, improve content learning by encouraging students to learn from one another (Damoense, 2003; McLoughlin, 2002).

### ***Creation of a product***

Findings showed that some lecturers developed assessment methods which required students to use technology to create authentic products, for example, health promotion professionals creating posters and radio advertisements. The usefulness of such an activity/assessment is that students are learning *with* technology. Goddard (2002) suggests that students can undertake authentic learning experiences to produce products applicable to the real world. When students become product developers, they engage in research and design processes, actively constructing their own knowledge (Goddard, 2002; Jonassen, 2000; Kiili, 2005).

### ***LMS fixed-choice tests***

Findings showed that only one lecturer developed LMS fixed-choice tests for a fully-online self-paced course, allowing the student to complete it multiple times, in order to pass. Unless fixed-choice tests are carefully planned, they may overemphasise factual knowledge



at the expense of problem solving and conceptual skills (Devlin, 2001; Lin & Gronlund, 2000). However Phillips & Lowe (2003) suggest that open book assessments, which are relevant to the workplace may be a suitable assessment method.

### **Online feedback**

These findings relate to the way in which lecturers have adapted and developed their teaching practice to provide feedback to students in their online courses.

Findings showed that lecturers said they provided more feedback, more timely feedback and more permanent feedback owing to the increased number of available online channels. This concurs with the literature, which suggests the online environment facilitates rapid and helpful feedback which can be motivational and beneficial in helping students learn (Bostock, 2002; Maharey, 2002).

Lecturers used verbal feedback in the classroom but suggested it may be forgotten, and felt that written feedback in discussion forums was valued more by students because it becomes a permanent record. It is this *record* which makes possible Laurillard's (2002, p. 159) assertion that discussion between lecturers and students is vital, as it allows students to stand back and review their learning in conjunction with feedback from their lecturer on how they are 'expressing their learning'.

Findings showed that feedback was given generally in discussion forums, while some lecturers specifically created forums to provide detailed feedback on individual activities and group activities. This corresponds with Laurillard (2002) who suggests that the online environment allows lecturers to identify students' misconceptions and provide feedback to them. However, it was not a finding of this study that lecturers specifically sought to identify misconceptions by individual students.

Some lecturers adapted handwritten comments on draft assessment work by using the LMS *assignment function*, cutting down on paper handling time. This concurs with Young (2004) who recommends the use of the LMS *assignment function* to provide feedback. However, Young (2004) concedes that it could be time consuming for lecturers, and recommends alternative feedback strategies are developed. Accordingly, findings showed that lecturers

with large cohorts of students found providing individual feedback somewhat time-consuming and were looking for ways around this, with one lecturer thinking they might increase peer review activities.

### ***Effects on students' learning***

#### **Question 2**

##### **What have been the effects of the online environment on students' learning?**

These findings relate to the effects the online environment has had on the quality of students learning. They are based on lectures' self-reported comments, not on direct student data.

Findings showed that a majority of lecturers thought that online learning was of a higher quality than classroom learning. Lecturers thought the quality of their students' learning had improved, owing to the types of online teaching strategies they implemented. A majority of lecturers thought that student learning is deeper, more interactive and collaborative online than in the classroom environment. While there is a lack of current studies into effective online teaching practices (Roslin Brennan, 2003; Milne & White, 2005) these findings concur with Singh, O'Donoghue, & Worton (2005), who found that online learning provided a superior alternative to classroom teaching.

Laurillard (2002) suggests that although online discussion may help students identify what they do or do not know about a subject, it may not lead them to learn what they should. However, these findings show that lecturers were able to look closely at what students were learning, owing to the *record* the online environment provides. Accordingly, findings showed that lecturers directed students closely to learn specific concepts, pushing them to research further and dig deeper into their experiences, enabling students to gain a better depth of knowledge than they would have with classroom teaching. Even though lecturers expected students to take responsibility for their own learning and to lead discussion forums themselves, lecturers did not neglect students. Instead, lecturers said they actively encouraged students to take deep approaches to learning, and in contrast to Laurillard's (2002) suggestion, aimed to lead students to learn what they should.

Lecturers suggested that the online environment encouraged more interaction and collaborative learning between students. Lecturers noticed that most of their students took more responsibility for their learning, engaging in online activities which encouraged knowledge sharing. Learning processes may be enhanced through technology which supports students to become self-directed and independent learners (Singh et al., 2005).

Responses showed lecturers thought students completed more work online than in the classroom. Lecturers thought the quality of student work had improved partly owing to students trying to ensure their contributions were of a good standard for others to read. Lecturers suggested these findings were also a result of the competitive nature of online students, who could see the standard of work other groups produced and who tried to improve on exemplars from previous students.

Findings showed some lecturers thought that students were more confident going into practicum, owing to the types of authentic learning experiences they had undertaken in their blended online courses.

### ***Professional development activities***

#### **Question 3**

**What professional development activities have early adopters undertaken to learn about online teaching practices and what further activities would they like to undertake?**

These findings relate to activities lecturers have undertaken to learn and share about online teaching practices.

#### **Professional development undertaken**

Findings showed that the most useful professional development activities undertaken, were discussion between peers, face-to-face workshops and one-on-one consultation. Activities based on research, reading journal articles, books and gaining qualifications in online learning were the least popular activities undertaken and considered the least useful.

Ramsden (2003) suggests that effective teaching is dependent on teachers connecting their teaching strategies to research. These findings suggest lecturers may not be basing their teaching practice on proven research. Attending conferences, which rated highly as a professional development activity, rated lower for usefulness. Along a similar vein, findings showed that lecturers used websites to access examples of online learning, yet the websites were reported as being not at all useful to lecturers. These findings suggest that the usual research channels may not be providing the information lecturers need for *effective* practice to implement online teaching (Milne & White, 2005).

Responses showed that lecturers would like to meet more often to talk informally with other staff, as they considered their colleagues the best source of ideas. This concurs with findings that lecturers can benefit from collegial support, encouraging the sharing of experiences and ideas, and getting assistance with technology and pedagogical issues (Ellis & Phelps, 2000; Mitchell et al., 2005). In terms of facilitating professional development, Ellis & Phelps (2000) suggest that lecturers undertake collaborative activities enabling them to share experiences and ideas while contributing to institutional policies. In this study, the development of online evaluation forms and changes to policy regarding online assessment procedures may be suitable as collaborative activities.

Teaching online provided the impetus for some lecturers to develop research skills, while other lecturers shared research findings through published papers and conference presentations.

### **Future professional development**

These findings relate to activities lecturers would like to undertake regarding online teaching practices.

### ***Pedagogy***

Many lecturers said they would like to learn how to make the online environment more interactive through the development of skills in interactive course design, interactive learning activities and self-directed learning activities.

Responses showed that some lecturers tried to analyse the steps involved in the design of an interactive online learning activity in order to understand about the *construction of learning*.

Lecturers said they would like to develop advanced skills in effective discussion forum facilitation and group management. Lecturers also wanted to learn how to develop online assessments which required students to demonstrate analytical skills and understanding of theories, rather than answer fixed-choice tests. The types of assessments these lecturers want to develop are recommended by Phillips & Lowe (2003) who suggest online courses should include summative assessments which assess deep learning.

### ***Technology***

Findings showed lecturers had increased their basic computer skills as a result of teaching online and they wanted to learn more: specifically, more about the online LMS functionality, and other technologies to develop learning materials and technology resources. This concurs with Ellis & Phelps, (2000) who describe a professional development study where lecturers chose to learn about a variety of file types in order to create their own technology resources.

### ***Summary***

Overall, these findings showed that *early-adopter* lecturers were interested in developing interactive online learning environments based on student-centred teaching approaches. However findings also showed that many lecturers initially adapted teacher-centred approaches for the online environment, in the absence of pedagogical knowledge for effective online course design. It was found that many lecturers were not undertaking professional development based on proven research. Instead lecturers were basing their online teaching practice on a *trial and error* approach, and on information gleaned from colleagues. Therefore, considerable emphasis was placed on student evaluation and self-evaluation to improve online course design. This haphazard approach to course design caused stress for some lecturers.

A wide variety of interactive teaching strategies and assessment methods were adapted and developed for use in online courses. However not all were based on sound pedagogical

approaches to learning. Online discussion and collaborative learning activities were identified as effective online teaching strategies.

Despite some difficulties in teaching online, findings showed a majority of lecturers thought that online learning was more effective than classroom based learning.

Finally, lecturers said they would like to undertake professional development to improve effective online teaching practice, regarding pedagogical and technological approaches to learning.

This chapter has discussed the findings of the study in relation to the literature review.

Chapter six presents a summary of the research study, conclusions, implications for practice and recommendations for further practice.

## CHAPTER 6: Conclusions

Chapter five discussed the implications of the research findings in the context of the literature review. This chapter will present a summary of the study, the limitations, conclusions, implications for practice and recommendations for further research.

### *Summary of the study*

This thesis came about owing to the difficulties some lecturers had in developing effective online teaching practice within the institution where this study was carried out. The literature suggested that *early adopters* may be a useful source of examples for online teaching practice. The literature review identified a gap between the abilities of *early adopters* and others to teach online, and suggested that *early adopters* and other lecturers should undertake different kinds of professional development activities. The literature recommended further research into these areas. The review showed there was little research into how lecturers changed their thinking regarding online teaching practices, and that research into teaching practices which could be transferred from the classroom to the online environment should be undertaken.

The aim of this thesis was to investigate how *early adopters* changed their thinking regarding teaching practices for the online environment in a medium-sized New Zealand university. The research questions were:

1. What teaching practices have *early adopters* adapted and developed for the online environment?
2. What have been the effects on their students' learning?
3. What professional development activities have *early adopters* undertaken to learn about online teaching practices and what further activities would they like to undertake?



A mainly qualitative approach, using a case study method was used to implement the study in a medium-sized, New Zealand university, where the researcher is an academic developer in the centralised professional development unit. Ethics approval was obtained from MUHEC and the ethics committee where the study takes place. Accordingly, written informed consent was obtained from lecturers' participating in this study. A mail-in survey, individual interviews and online course observations were used to gather data for the research questions. In order to explore how lecturers changed their thinking regarding their online teaching practices, the literature indicated that taking a reflective approach to data gathering would be appropriate. Therefore, Ramsden's (2003) framework for *evaluating and recognising effective teaching* was adapted for the data gathering questions. The data was analysed using a method of *reduction and interpretation*.

### ***Limitations***

In order to obtain consistency for the findings, the data gathering methodology for this study was based on the principle of *triangulation*. However, this case study is limited. Although surveys were sent to all of the lecturers enrolled in the university's online LMS *address book*, not all of these lecturers used their online courses for teaching, which may account for the low response rate. Participants who volunteered to be interviewed, were *purposefully selected* from an *accidental sample* of lecturers who responded to the mail-in survey. Therefore the survey sample may not be representative of the population, and the survey findings may apply only to the sample studied. However, participants for the interview were *purposefully selected* from *early adopters* who had redeveloped their online course/s over three or more semesters, therefore findings from the interviews may be qualified on the basis of this sample. Similarities between this study's findings and matters discussed in the literature review also suggest that the findings may have wider relevance.

### ***Conclusions and recommendations for professional developers***

This section presents the conclusions of the study regarding the adaptation and development of online teaching practices. Based on these conclusions, recommendations are made for professional developers who will be working with lecturers.

## Course design

This study showed that most lecturers did not base their online course design and teaching strategies on educational theory. Instead they used a process of *trial and error* to adapt and redevelop their online courses. The study showed that when lecturers first started teaching online, some transferred teacher-centred approaches to the online environment. The failure of these approaches, made transparent through the lack of student participation, caused some lecturers to become stressed.

The study showed that lecturers preferred not to participate in, and did not find useful, professional development activities which were research based. It could be that the usual research channels are not providing enough information for effective online teaching practice, which supports literature that suggests there are relatively few studies on effective online teaching practice. Instead, lecturers engaged in professional development activities mainly based on discussion with colleagues in order to acquire practical examples for online teaching practice. This may explain the literature which showed that lecturers asked for examples of other lecturers' experiences, in terms of online teaching practices (Torrissi-Steele & Davis, 2000). This study showed that lecturers undertook a great deal of course evaluation and in particular student evaluation, redeveloping their course/s each semester. Findings showed that lecturers were very responsive to students' needs, and this continual redevelopment based on students' needs, had the effect of changing lecturers' thinking, from teacher-centred approaches to student-centred approaches for online teaching practice. Lecturers asked for further professional development in designing interactive online environments.

**It is recommended** that professional developers support lecturers in understanding interactive online environments, based on research which underpins recommended pedagogical and technological practices that are likely to facilitate deep approaches to learning. This will enable lecturers to evaluate their online teaching practices according to recommended pedagogical approaches to teaching and learning.

### **Facilitating online learning**

In this study, lecturers asked about ways of determining students' prior knowledge online and how to conduct an analysis of the steps involved in constructing online teaching strategies, so they could create effective interactive online strategies. These findings showed lecturers have a lack of pedagogical knowledge, regarding the ways in which people learn.

In this study, most of the lecturers thought collaborative learning which encompasses all of the students in a class, was more likely to happen online than in the classroom. Online discussion was deemed to be an effective learning strategy, however lecturers grappled with the balance of encouraging or discouraging students to come online. Lecturers asked for further professional development on effective discussion forum and group management.

**It is recommended** that professional developers focus on ways of helping lecturers understand research that underpins approaches to learning. This in turn may help to support lecturers in facilitating effective online discussions and group collaborations.

### **Online teaching strategies**

This study found that lecturers developed student-centred strategies to motivate and engage students through the process of discovery and collaboration. Lecturers integrated teaching strategies with online LMS functions as well as technology resources, for example, audio and visual technologies.

It was found that lecturers adapted and developed a wide variety of teaching strategies which met research based definitions of interaction. The strategies also demonstrated the principle of students' learning *with* technology, in order to construct personal knowledge. However, some of the teaching strategies developed, suggested that lecturers were inclined to use technology to learn *from*, without relevant instruction built into the strategy, and that they may not have understood what the term *effective online interaction* encompassed.

**It is recommended** that professional developers support lecturers in understanding recommended pedagogical approaches underpinning the effective use of technology and effective online interaction, to influence deep approaches to learning.

### **Assessment**

This study found that it was useful for lecturers to review their existing assessment practices when adapting their courses for the online environment, as the assessment methods did not always match the learning outcomes.

A gap in the literature, suggested that online learning processes do not always match assessment methods (Laurillard, 2002). However in this study, lecturers tried to adapt and develop assessment methods which corresponded with online learning processes. Although online discussion was summatively assessed as a way to force students online, it became apparent that this was a dominant and effective way of learning. In terms of pedagogical approaches, lecturers tried to develop authentic based assessments when possible. Lecturers would like professional development in developing online assessment which examines critical thinking, rather than fixed-choice tests.

**It is recommended** that professional developers support lecturers in reviewing their existing assessment methods when moving online. In particular, methods should be developed to match learning outcomes, corresponding with online learning processes, and be as authentic as possible.

### **Feedback**

The study showed that the online environment provided more opportunities to give feedback to students. Written feedback channels were developed more than others, due to the value lecturers felt students' placed on it, as a permanent form of feedback. The online *record of learning* allowed lecturers to identify what their students were or were not learning and to direct them accordingly. Students were able to come back to the *record* to observe their learning in relation to their lecturer's comments as often as necessary. As it was relatively easy to provide written feedback online, some lecturers found it time

consuming, particularly when providing feedback on draft assessments. It was suggested that one way of cutting down on feedback was to expand peer feedback strategies.

**It is recommended** that professional developers support lecturers in developing peer feedback strategies and to determine other strategies that may result in a reduction of online feedback time.

### ***Effectiveness of online teaching practices on students' learning***

This limited study builds on previous research by Singh, O'Donoghue & Worton (2005) which suggests that online learning is effective. In this study, lecturers found that online learning was of a better standard and higher quality than in the classroom. Lecturers found that student learning was deeper, more interactive and collaborative than classroom teaching. While lecturers only mentioned online teaching strategies as the reason for improving learning, the findings showed that it was more likely to be a combination of elements: the course design, learning experiences, teaching strategies, assessment methods, feedback and evaluation methods. The lecturers in this study had redeveloped their online courses over a period of three to five semesters and for many of them, the elements described above were used in student-centred approaches to learning, which can influence deep approaches to students' learning.

This study supports others which suggests that the use of student-centred approaches in the online environment, encourage students to be more self-directed, collaborative and to engage competitively with learning materials / technology resources, as well as peers, to improve learning.

**It is recommended** that further studies into the effectiveness of online teaching practices on students' learning be undertaken from the student perspective.

### ***Implications for the body of knowledge***

This study suggests that *early adopters* are as likely as any other group of lecturers to transfer teacher-centred approaches to the online environment and as a result, students are less likely to participate in learning experiences, causing lecturers to become stressed.

The study found that many *early adopters* lacked a research base to adapt and develop online teaching practices. They also lacked pedagogical knowledge and understanding regarding effective technology based teaching and online interaction. Therefore this study disagrees with research which suggests professional development for *early adopters* should be different from others (Wilson & Stacey, 2004) and suggests that *early adopters* could undertake the same professional development as any other lecturer.

It was found that *early adopters* could be a useful source of knowledge regarding online teaching practices. In this study, *early adopters* developed a variety of online teaching strategies as they pushed the boundaries of technology to see what could be done. However, *early adopters'* teaching practices should be evaluated according to research based pedagogical approaches underpinning recommended online teaching practices, in order to influence deep approaches to student learning.

This study confirms research which suggests that it takes time for lecturers to change from teacher-centred approaches to student-centred approaches in the online environment (Torrissi-Steele & Davis, 2000). However, it was found that *early adopters* changed their thinking regarding student-centred online environments, owing to an emphasis on course evaluation and student evaluation, heavily relying on students' needs to guide the redevelopment of their online courses.

### ***Recommendations for further research***

This study makes two recommendations for further research. First, that further research into examples of effective online teaching practice be undertaken. Secondly, that research be undertaken into the types of professional development that *mainstream majority* lecturers would find useful in adapting and developing their teaching practice for the online environment.

### ***Closing statement***

The aim of this thesis was to explore how *early adopters* changed their thinking regarding teaching practices for the online environment. The research questions investigated how



*early adopters* adapted and developed their classroom based teaching practice for the online environment, the effect of online teaching practices on their students' learning, and the types of professional development lecturers engaged in to learn about online teaching practice.

This study found that *early adopters* can transfer teacher-centred approaches to the online environment. However, the interview findings showed, that most of the *early adopters* changed their teaching practices to student-centred approaches over time, while adapting and redeveloping their online courses. Accordingly, the change in thinking relied heavily on self and student evaluation, seriously taking heed of students' needs and suggestions.

This study found that *early adopters* thought that online learning improved the quality of student learning and led to students using deep approaches to learning. Accordingly, this study suggests that *early adopters* can be useful sources of good examples for online teaching practice. However, the findings showed that in general, *early adopters* do not undertake or find useful, professional development activities which are research based. This may explain why a majority of *early adopters* do not base their online course design on research. Therefore it is suggested that any examples of online teaching practice gleaned from *early adopters*, should be evaluated by research based approaches to the integration of pedagogy and technology and the effect they may have on approaches to student learning.

A gap in the literature suggested that *early adopters* and the mainstream majority should engage in different types of professional development. The findings from this study suggest that although they could engage in different types of professional development, *early adopters*, as well as the *mainstream majority*, would benefit from professional development which facilitates an understanding of student-centred pedagogical approaches, in relation to the integration of pedagogy and technology to enhance learning and interactive online teaching practices.



## References

- Abbott, C., Lachs, V., & Williams, L. (2001). Fool's gold or hidden treasure: Are computers stifling creativity? *Journal of Education Policy*, 16(5), 470-487.
- Adams, A. M. (2004). Pedagogical underpinnings of computer-based learning. *Journal of Advanced Nursing*, 46(1), 5-12.
- Ally, M. (2004). Foundations of educational theory for online learning. In T. Anderson & F. Elloumi (Eds.), *Theory and practice of online learning*. Athabasca University: [www.cde.athabascau.ca/online\\_book](http://www.cde.athabascau.ca/online_book).
- Bailey, M. (2002a). *Examining the ed. tech. metamorphosis: Emerging butterfly or deleterious root worm?* Retrieved September, 2005, from <http://education.ed.pacificu.edu/bcis/workshop/adoption.html>
- Bailey, M. (2002b). *Transforming pedagogical practice*. Retrieved September, 2005, from <http://education.ed.pacificu.edu/bcis/workshop/pedagogy.html>
- Bell, J. (1999). *Doing your research project: A guide for first-time researchers in education and social science* (3rd ed.). Berkshire: Open University Press.
- Bennett, C., Foreman-Peck, L., & Higgins, C. (1996). *Researching into teaching methods in colleges and universities*. London: Kogan Page.
- Blaxter, L., Hughes, C., & Tight, M. (1996). *How to research*. UK: Open University Press.
- Borady-Ortmann, C. (2002). Teachers' perceptions of a professional development distance learning course: A qualitative case study. *Journal of Research on Technology in Education*, 35(1), 107-117.

- Bostock, S. (1998). Constructivism in mass higher education: A case study. *British Journal of Educational Technology*, 29(3), 225-240.
- Bostock, S. (2002). *Computer assisted assessment: A brief review prior to some experiments*. Retrieved June, 2003, from [http://www.keele.ac.uk/depts/cs/Stephen\\_Bostock/docs/CAAreview.htm](http://www.keele.ac.uk/depts/cs/Stephen_Bostock/docs/CAAreview.htm)
- Bouma, G. D. (1993). *The research process* (Revised ed.). Melbourne: Oxford University Press.
- Brennan, R. (2003). *One Size doesn't fit all. Pedagogy in the online environment* (No. 1). Leabrook: Australian National Training Authority.
- Brennan, R., McFadden, M., & Law, E. (2001). *Review of research. All that glitters is not gold: Online delivery of education and training*.
- Britton, L., & Morgan, C. K. (2004). A voyage out of the comfort zone: Colonising planet online. Proceedings from the 21st ASCILITE Conference. In R. Atkinson, C. McBeath, D. Jonas-Dwyer & R. Philips (Eds.), *Beyond the Comfort Zone*: (pp. 159-162). Perth.
- Brown, S., Rust, C., & Gibbs, G. (2000). *Strategies for diversifying assessment in higher education*: The Oxford Centre for Staff Development.
- Cajas, F. (2000). Technology education research: Potential directions. *Journal of Technology Education*, 12(1), Editorial.
- Clark, J. (1997). *Educational research: Philosophy, politics, ethics*. Palmerston North: ERDC Press.
- Clark, R. E. (Ed.). (2001). *Learning from media. Arguments, analysis, and evidence*. Connecticut: Information Age Publishing Inc.

- Clarke, A. (2001). *Designing computer-based learning materials*. Hampshire: Gower Publishing Limited.
- Cox, G., Carr, T., & Hall, M. (2004). Evaluating the use of synchronous communication in two blended courses. *Journal of Computer Assisted Learning*, 20, 183-193.
- Cresswell, J. W. (1994). *Research design. Qualitative and quantitative approaches*. London: SAGE Publications.
- Damoense, M. Y. (2003). Online learning: Implications for effective learning for higher education in South Africa. *Australian Journal of Educational Technology*, 19(1), 25-45.
- Dearn, J., Fraser, K., & Ryan, Y. (2002). *Investigation into the provision of professional development for university teaching in Australia: A discussion paper. A DEST commissioned project funded through the HEIP program*: Commonwealth of Australia 2002.
- deBono, E. (2004). *How to have a beautiful mind*. London: McQuaig Group Inc.
- Denzin, N., & Lincoln, Y. (1998). *The landscape of qualitative research: Theories and issues*. Thousand Oaks: Sage.
- Devlin, M. (2001). *On-line assessment*. Retrieved June, 2005, from [www.unisanet.unisa.edu.au/flc/pdonline/IssuesinOnlineAssessment.doc](http://www.unisanet.unisa.edu.au/flc/pdonline/IssuesinOnlineAssessment.doc)
- Dooley, L. M., Metcalf, T., & Martinez, A. (1999). A study of the adoption of computer technology by teachers. *Educational Technology & Society*, 2(4).
- Ellis, A., & Phelps, R. (2000). Staff development for online delivery: A collaborative, team based action learning model. *Australian Journal of Educational Technology*, 16(1), 26-44.

- Errington, E. P. (2001). The influence of teacher beliefs on flexible learning innovation in traditional university settings. In F. Lockwood & A. Gooley (Eds.), *Innovation in open & distance learning. Successful development of online and web-based learning* (pp. 27-37). London: Kogan Page.
- Felton, E., & Evans, P. (2002). Collaborative staff development across a diverse organisation. Proceedings from the 19th ASCILITE Conference. In A. Williamson, C. Gunn, A. Young & T. Clear (Eds.), *Winds of Change in the Sea of Learning* (Vol. 1, pp. 221-230). Auckland.
- Gibbs, G. (1992). *Improving the quality of student learning*. Bristol: Technical and Education Services Ltd.
- Goddard, M. (2002). What do we do with these computers? Reflections on technology in the classroom. *Journal of Research on Technology in Education*, 35(1), 19.
- Isackson, P. (1999). *The Constructivist Revolution and the World Wide Web*. Retrieved September 2003, from <http://www.aace.org/pubs/webnet/v1no4/Vol. 1 No. 4 Carlson.pdf>
- Janesick, V. J. (1994). The dance of qualitative research design. Metaphor, methodolatry, and meaning. In Y. Lincoln & N. Denzin (Eds.), *Handbook of qualitative research* (pp. 145-155). USA: Sage.
- Jonassen, D. H. (2000). *Computers as mindtools for schools. Engaging critical thinking*. (2nd ed.). Upper Sadle River, New Jersey 07458: Prentice-Hall, Inc. Pearson Education.
- Jonassen, D. H., Howland, J., Morre, J., & Marra, R. M. (2003). *Learning to solve problems with technology. A constructivist perspective* (2nd ed.). Columbus, Ohio: Pearson Education, Inc., Upper Saddle River, New Jersey.

- Kiili, K. (2005). Participatory multimedia learning: Engaging learners. *Australasian Journal of Educational Technology*, 21(3), 303-322.
- Kirkpatrick, D. (2001). Staff development for flexible learning. *The International Journal for Academic Development*, 6(2), 168-176.
- Laurillard, D. (2002). *Rethinking University Teaching. A conversational framework for the effective use of learning technologies* (2nd ed.). London and New York: RoutledgeFalmer.
- Leedy, P. D. (1993). *Practical research. Planning and design* (5th ed.). New York: Macmillan Publishing Company.
- Lin, R. L., & Gronlund, N. E. (2000). *Measurement and assessment in teaching* (8th ed.). Upper Saddle River, New Jersey: Prentice-Hall, Inc.
- Lockwood, F., & Gooley, A. (Eds.). (2001). *Innovation in open & distance learning. Successful development of online and web-based learning*. London: Kogan Page Limited.
- Looms, P. O. (2002). Sailing Into uncharted waters - The impact of new media use on education. Proceedings from the 19th ASCILITE Conference. In A. Williamson, C. Gunn, A. Young & T. Clear (Eds.), *Winds of Change in the Sea of Learning* (pp. 5-16). Auckland.
- Lynch, M. M. (2002). *The Online Educator. A guide to creating the virtual classroom*. London and New York: RoutledgeFalmer.
- Maharey, S. (2002). *The report of the E-Learning advisory group*. Retrieved 1 November, 2005, from <http://www.executive.govt.nz/minister/maharey/highways/pedagogy.htm>

- McFadzean, E., & McKenzie, J. (2001). Facilitating virtual learning groups: A practical approach. *Journal of Management Development*, 20(6), 470-494.
- McLoughlin, C. (2002). Computer supported teamwork: an integrative approach to evaluating cooperative learning in an online environment. *Australian Journal of Educational Technology*, 18(2), 227-254.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.
- Milne, J., & White, P. (2005). *e-Learning guidelines*. Retrieved September, 2005
- Ministry of Education. (2004). *Taking the next step. The interim tertiary e-learning framework*. Retrieved 7 June, 2005, from <http://www.elearn.govt.nz>
- Mitchell, D., Clayton, J., Gower, B., Barr, H., & Bright, S. (2005). *Survey of e-learning experiences of tutors in New Zealand Institutes of Technology / Polytechnics*.
- Moon, J. (1999). *Learning journals. A handbook for academics, students and professional development*. UK: Kogan Page.
- Noe, R. A. (2002). *Employee training and development* (2nd ed.). New York: McGraw-Hill.
- OECD. (2001). *Learning to change: ICT in schools*. Paris: The Centre for Educational Research and Innovation.
- Phelps, R., Graham, A., & Kerr, B. (2004). Teachers and ICT: Exploring a metacognitive approach to professional development. *Australasian Journal of Educational Technology*, 20(1), 49-68.
- Phillips, R. (2005). *Challenging the primacy of lectures: The dissonance between theory and practice in university teaching*. Retrieved 2 July, 2005, from [http://jutlp.uow.edu.au/2005\\_v02\\_i01/phillips003.html](http://jutlp.uow.edu.au/2005_v02_i01/phillips003.html)

- Phillips, R., & Lowe, K. (2003). Issues associated with the equivalence of traditional and online assessment. Proceedings from the 20th ASCILITE Conference. In G. Crisp, D. Thiele, I. Scholten, S. Barker & J. Baron (Eds.), *Interact, integrate, impact*. Adelaide.
- Ramsden, P. (2003). *Learning to teach in higher education* (2nd ed.). London and New York: RoutledgeFalmer.
- Redmond, P., & Brown, K. (2004). Are we there yet? The journey to ICT integration. *Professional Educator*, 3(4), 14-16.
- Robinson, B. (2001). Innovation in open and distance learning: some lessons from experience and research. In F. Lockwood & A. Gooley (Eds.), *Innovation in open & distance learning. Successful development of online and web-based learning* (pp. 15-26). London: Kogan Page.
- Roblyer, M., Edwards, J., & Havriluk, M. (2003). *Integrating educational technology into teaching*. New Jersey: Prentice Hall.
- Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). New York: The Free Press.
- Salmon, G. (2000). *E-moderating: The key to teaching and learning online*. London: Kogan Page.
- Singh, G., O'Donoghue, J., & Worton, H. (2005). *A study into the effects of e-learning on higher education*. Retrieved 10 May, 2005, from [http://jutlp.uow.edu.a/2005\\_v02\\_i01/odonoghue003.html](http://jutlp.uow.edu.a/2005_v02_i01/odonoghue003.html)
- Slavin, R. E. (2003). *Educational psychology. Theory and practice*. Boston: Allyn & Bacon.
- Stacey, E., & Rice, M. (2002). Evaluating an online learning environment. *Australian Journal of Educational Technology*, 18(3), 323-340.



- Stratford, R., & Brown, M. (2002). Towards a political understanding of New Zealand's ICT strategies. *Computers in New Zealand Schools*, 14(2), 3-9.
- Torrissi-Steele, G., & Davis, G. (2000). "A website for my subject": The experiences of some academics' engagement with educational designers in a team based approach to developing online learning materials. *Australian Journal of Educational Technology*, 16(3), 283-301.
- Torrissi, G., & Davis, G. (2000). Online Learning as a catalyst for reshaping practice - The experiences of some academics developing online learning materials. *The International Journal for Academic Development*, 5(2), 166-176.
- Waldron, N., Dawson, S., & Burnett, B. (2005). *Academic staff development in online learning and teaching: Developing online pedagogies*. Retrieved September, 2005, from <http://ausweb.scu.edu.au/aw05/papers/refereed/waldron/paper.html>
- Walker, R. (2002). A reflective cycle for teacher learning: The Christchurch ICT cluster project. In G. Hoban (Ed.), *Teacher learning for educational change* (pp. 115-142). Buckingham: Open University Press.
- Wilson, G., & Stacey, E. (2004). Online interaction impacts on learning: Teaching the teachers to teach online. *Australasian Journal of Educational Technology*, 20(1), 33-48.
- Young, S. S. C. (2004). In search of online pedagogical models: Investigating a paradigm change in teaching through the *School for All* community. *Journal of Computer Assisted Learning*, 20, 133-150.

## **Appendix A**

*Online LMS Services Manager letter*

18 November 2004

Mark [REDACTED]

Blackboard Services Manager

[REDACTED]

[REDACTED]

46 Wakefield Street

[REDACTED]

Dear [REDACTED]

## Request approval for use of Blackboard LMS database

### SURVEY

I would like to access the above database to obtain a list of [REDACTED] instructors in order to send them each a copy of an anonymous survey. The survey has two purposes:

- (a) to select a purposeful sample for individual interviews and observation of a Blackboard course,
- (b) to gather data from a wide number of the possible sample population.

Once the surveys have been sent out, the list of instructor names will be destroyed.

I am conducting the survey for my thesis, as part of a Master of Education (Adult), Massey University. The purpose of the study is to explore how university academics develop professional knowledge related to flexible learning and teaching practices.

### OBSERVATION OF BLACKBOARD COURSE

I am also inviting instructors to participate in a follow up study. I need six instructors to take part in an individual interview and to allow access to the [REDACTED] course for observation of teaching and learning strategies.

Participants who sign a consent form will agree to give me permission to access their Blackboard course for 48 hours in order to note the type of learning and teaching strategies used. This information will be used confirm and fill in any gaps from the individual interview. Student information will NOT be collected under any circumstances. I would require you to give me access to these courses for the time period.

If you agree to this request, please sign below. As I need approval for [REDACTED] Ethics Committee and the Massey University Human Ethics Committee, I would appreciate you signing two copies of this letter. Thank you for your consideration.

Yours faithfully



Julia Hallas

---

I agree to give Julia Hallas a list of current Blackboard instructors as agreed in the terms outlined above

Signed



Name



Date 20/11/04

## **Appendix B**

- 1. MUHEC approval***
- 2. Ethics committee approval from the institution where this study takes place***



# Massey University

WELLINGTON

Private Box 756  
Wellington  
New Zealand  
T 64 4 801 5799  
F 64 4 801 2692  
[www.massey.ac.nz](http://www.massey.ac.nz)

Human Ethics Committee: Wellington

25 January 2005

Julia Leah Hallas  
9 Percival Parade  
St Mary's Bay  
AUCKLAND

Dear Julia

**Re: MUHEC: WGTN Application:- 04/43**  
**A case study for developing professional knowledge in flexible learning: the changing practice of university academics**

Thank you for your response to the comments and questions from the Massey University Human Ethics Committee: Wellington.

The amendments you have made now meet the requirements of the Massey University Human Ethics committee: Wellington and the ethics of your application are approved. Approval is for three years. If this project has not been completed within three years from the date of this letter, reapproval must be requested.

If the nature, content, location, procedures or personnel of your approval application change, please advise the Secretary of the Committee.

A reminder to include the following statement on all public documents: "This project has been reviewed and approved by the Massey University Human Ethics Committee, WGTN Application 04/44. If you have any concerns about the conduct of this research, please contact Professor Sylvia V Rumball, Chair, Massey University Campus Human Ethics Committee: Wellington/Palmerston North, telephone 06 350 5249, email [humanethicspn@massey.ac.nz](mailto:humanethicspn@massey.ac.nz)."

Please note that the Human Ethics Committee at Wellington has been restructured and I am not involved with the Committee now. The above statement should therefore replace the existing Committee Approval Statement on your documents. My apology for any inconvenience this has caused.

Yours sincerely

Jeremy Hubbard  
Acting Chair  
Massey University Human Ethics Committee: Wellington

Cc: Alison Viskovic, Dept of Social and Policy Studies in Education, Wellington

logo  
Covered

# MEMORANDUM

## Academic Services

---

To: Julia Hallas  
From: [REDACTED]  
Date: 24 January 2005  
Subject: 04/226 A case study for developing professional knowledge in flexible learning: The changing practice of university academics

---

Dear Julia

Your application was approved for a period of two years until 27 January 2007.

You are required to submit the following to [REDACTED]:

- A brief annual progress report indicating compliance with the ethical approval given.
- A brief statement on the status of the project at the end of the period of approval or on completion of the project, whichever comes sooner.
- A request for renewal of approval if the project has not been completed by the end of the period of approval.

Please note that the Committee grants ethical approval only. If management approval from an institution/organisation is required, it is your responsibility to obtain this.

The Committee wishes you well with your research.

Please include the application number and study title in all correspondence and telephone queries.

Yours sincerely

[REDACTED]

[REDACTED]  
Executive Secretary

[REDACTED]

## **Appendix C**

### ***Participants' documentation as approved by MUHEC***

- 1. Interview schedule**
- 2. Intermediary letter**
- 3. Survey**
- 4. Invitation for further participation**
- 5. Participant information sheet**
- 6. Consent form**
- 7. Individual interview questions**
- 8. Authority for release of tape transcripts**
- 9. Online course observation form**



## Interview schedule

Participant code	Mail code	Interview questions sent	Information sheet sent	Agree to participate	Interview date and time	Consent form signed	Sent transcript	Permission to use tape transcript
L	HN	Y	Y	AGREE	Thursday 12 <sup>th</sup> May 1-2 pm AF403	Y	Y	Y
N	RS	Y	Y	AGREE	Wednesday 11 <sup>th</sup> May 1-2 pm Careers Centre	Y	Y	Y
M	BK	Y	Y	AGREE	Wednesday 18 <sup>th</sup> May 12.30-1.30 pm WU308	Y	Y	Y

O	HY	Y	Y	AGREE	Friday 20th May 9.30-10.30 am AR338	Y	Y	Y
P	HP	Y	Y	AGREE	Tuesday 17 <sup>th</sup> May 10.30-11.30 am AF403	Y	Y	Y
Q	HN	Y	Y	AGREE	Tuesday 17 <sup>th</sup> May 12-1 pm AF403	Y	Y	Y Sent email reminder
R	BM	Y	Y	AGREE	Tuesday 10 <sup>th</sup> May 1.30-2.30 pm WU314	Y Does not want copy of form sent.	Y	Sent permission via email, did not use form.

24 March 2005

**Project Title:** A case study for developing professional knowledge in flexible learning: The changing practice of university academics.

Julia Hallas is undertaking a survey for a thesis as part of a Master of Education (Adult), Massey University. The aim of this thesis is to investigate how university academics develop professional knowledge related to flexible learning and teaching practices.

You are invited to participate by completing the attached survey.

The last page of the survey is an invitation to participate in a follow up interview and [REDACTED] course observation. Julia needs six [REDACTED] instructors for this. If you would like to participate, please send back the return slip. An information sheet and copy of the interview questions will be sent to you to peruse. You are under no obligation to take part in the project by requesting this information.

If you decide to participate, please return the survey by **12 April 2005**. Thank you.

Yours sincerely

[REDACTED]

[REDACTED]  
Blackboard Services Manager

enc

- Survey
- Invitation to consider participation in follow up interview



## SURVEY

### Project Title:

A case study for developing professional knowledge in flexible learning: The changing practice of university academics.

### Invitation:

Julia Hallas is undertaking this survey for a thesis as part of a Master of Education (Adult), Massey University. You are invited to take part. It should take approximately 15-30 minutes to complete.

### What is the purpose of the survey?

To investigate how university academics develop professional knowledge related to flexible learning and teaching practices. Specifically, to investigate how academics come to understand:

1. concepts related to flexible teaching and learning practices, and
2. the process of teaching in a flexible environment.

### Participant Concerns:

The information you provide will be treated confidentially and you will not be identified. If information from this survey is published, you will not be individually identified in any way.

Completion and return of this survey implies consent. You have the right to decline to answer any particular question. Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor.

### Project Supervisor Contact Details:

Alison Viskovic, Massey University

☎ 04 801 2794 x 6713

✉ [A.R.Viskovic@massey.ac.nz](mailto:A.R.Viskovic@massey.ac.nz)

### Researcher Contact Details:

Julia Hallas, [REDACTED]

☎ [REDACTED] x 5785

✉ [julia.hallas@\[REDACTED\]](mailto:julia.hallas@[REDACTED])

**Please return to Julia Hallas (LE) by 12 April 2005**

**Thank you**

This project has been reviewed and approved by the Massey University Human Ethics Committee, WGTN Application 04/44. If you have any concerns about the conduct of this research, please contact Professor Sylvia V Rumball, Chair, Massey University Campus Human Ethics Committee: Wellington/Palmerston North, telephone 06 350 5349, email [humanethicspn@massey.ac.nz](mailto:humanethicspn@massey.ac.nz).

Approved by the [REDACTED] Ethics Committee on 24 January 2005 [REDACTED] Reference number 04/226.

All questions relate to teaching and learning in the [redacted] flexible environment

Use of [redacted]

1. How do you use [redacted] (tick as many as required)

To teach a fully distance course (no on-campus lectures) ☐

To teach in a mixed mode, eg (some sessions on campus and some online) ☐

To allow my students to access to course materials (no teaching) ☐

Other variation? (please explain)

2. In which semesters have you taught a paper using [redacted] (tick as many as required)

sem 1, 2003 ☐ sem 1, 2004 ☐ sem 1, 2005 ☐

sem 2, 2003 ☐ sem 2, 2004 ☐

3. In which semesters did you carry out major changes to improve the course design of a paper/s in [redacted] (tick as many as required)

sem 1, 2003 ☐ sem 1, 2004 ☐ sem 1, 2005 ☐

sem 2, 2003 ☐ sem 2, 2004 ☐

Any comments?

4. Tick any of the following professional development activities you have engaged in to develop your knowledge about flexible learning, and

5. Circle the three items that were most useful to you.

conferences <input type="checkbox"/>	websites <input type="checkbox"/>	journals <input type="checkbox"/>
f-2-f workshops <input type="checkbox"/>	online workshops <input type="checkbox"/>	books <input type="checkbox"/>
discussion with peers <input type="checkbox"/>	mentors <input type="checkbox"/>	1 on 1 <input type="checkbox"/>

A qualification in this area: ☐ state the name / level:

Other (please list):

6. Describe the most effective online learning strategy you have devised for your students. How do you know it is effective?

7. Are there any specific theories or theorists you have based your flexible course design on? Please comment.

8. Please comment on any new skills you have learned as a result of using [REDACTED] and/or teaching in a flexible environment.

9. What new skills would you like to learn regarding flexible learning practices?

Thank you for taking the time to participate.

Please return this survey to Julia Hallas LE by 12 April 2005

## Invitation for further participation

### Project Title:

A case study for developing professional knowledge in flexible learning: The changing practice of university academics.

### Invitation:

Julia Hallas needs six [REDACTED] instructors to:

1. take part in an **individual interview**, and
2. to allow access to the [REDACTED] course for **electronic observation** of teaching and learning strategies.

### How are people chosen to be asked to be part of the project?

Please consider taking part, if you:

1. have been using [REDACTED] as a teaching tool,
2. have taught with [REDACTED] for a minimum of 3 semesters, and
3. have carried out major changes to the course design over this time.

### What happens in the study?

**Interview:** You will take part in an individual interview with Julia lasting approximately one hour. The interview will be taped and transcribed by Julia. You will be given a copy of the transcription to check for accuracy and to change or remove any data you feel uncomfortable about having provided. This check will also serve as an opportunity to clarify any statements.

**Observation:** Julia will electronically observe your [REDACTED] course to note the type of learning and teaching strategies used. This information will be used to confirm and fill in any gaps from the individual interview. Student information will NOT be collected under any circumstances.

### Opportunity to consider invitation

If you think you meet the selection criteria and would like to consider this invitation, Julia will send you a copy of the interview questions and participant information sheet for you to look over. Please complete the details below.

Yours sincerely

[REDACTED]

.....

### I would be interested in considering the invitation to continue with this project:

'A case study for developing professional knowledge in flexible learning: The changing practice of university academics'

Please send me a copy of the interview questions and the participant information form to look over.

I understand that by completing this form, I have NOT obligated myself to take part in the study.

Name:

Internal mail code:

Please remove this slip and send via internal mail to Julia Hallas (LE) by 12 April 2005



**Project Title:**

A case study for developing professional knowledge in flexible learning: The changing practice of university academics

**Participant Information Sheet:**

You are invited to participate in this study. Participation is voluntary and you may decline to take part without giving reason. If you accept the invitation you may withdraw at any stage, without giving reason or being disadvantaged.

**Project Contacts:**

If you have any concerns or questions regarding the nature of this project please contact the researcher or the project supervisor.

**Researcher Contact Details:**

Julia Hallas, [REDACTED]

☎ [REDACTED] x 5785

✉ [julia.hallas@\[REDACTED\]](mailto:julia.hallas@[REDACTED])

**Project Supervisor Contact Details:**

Alison Viskovic, Massey University

☎ 04 801 2794 x 6713

✉ [A.R.Viskovic@massey.ac.nz](mailto:A.R.Viskovic@massey.ac.nz)

**What is the purpose of the study?**

This thesis is being undertaken as part of a Master of Education (Adult), Massey University. The purpose of the study is to explore how university academics develop professional knowledge related to flexible learning and teaching practices. Specifically, to investigate how academics come to understand:

1. concepts related to flexible teaching and learning practices, and
2. how academics come to understand the process of teaching in a flexible environment.

**How are people chosen to be asked to be part of the study?**

Please consider taking part, if you have been using [REDACTED] as a teaching tool, have taught with [REDACTED] for a minimum of three semesters and who have carried out major changes to the course design over this time.

Participation has been restricted to six people in order to proficiently manage the amount of potential data within the specified time frame of this thesis project.

**What happens in the study?**

**INTERVIEW:** You will take part in an individual interview with Julia lasting approximately one hour. The interview will be taped and transcribed by Julia. Please understand that you have the right to ask for the audio tape to be turned off at any time during the interview. You will be given a copy of the transcription to

check for accuracy and to change or remove any data you feel uncomfortable about having provided. This check will also serve as an opportunity to clarify any statements.

**OBSERVATION:** Julia will observe your [REDACTED] course to note the type of learning and teaching strategies used. This information will be used to confirm and fill in any gaps from the individual interview. Student information will NOT be collected under any circumstances.

**What are the discomforts and risks?**

There are no foreseeable risks involved.

**What are the benefits?**

This research has the potential to inform the professional development programme in 'Flexible Learning' at [REDACTED]

**How will my privacy be protected?**

Your privacy will be protected. You will only be identified by code numbers during the data collection process. After this time, the codes will be destroyed and data and findings will be anonymous. You will not be able to be identified in the presentation of findings. Only Julia will have access to the data and consent forms, which will be stored in locked cabinets in my office. All materials will be destroyed after six years.

**Opportunity to consider invitation:**

The prompt questions for the interview are attached. Please look over these questions and decide if you would still like to take part in the study. If not, that's fine, there is no pressure to participate.

**Opportunity to receive feedback on results of research:**

If you would like to receive a copy of the findings of this project, please note this on the consent form.

**Participant's Rights:**

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question,
- withdraw from the study at any time,
- ask any questions about the study at any time during participation,
- provide information on the understanding that your name will not be used unless you give permission to the researcher,
- be given access to a summary of the project findings when it is concluded,
- have the right to ask for the audio tape to be turned off at any time during the interview.

**How do I join the study?**

If you would like to join this study, please contact julia.hallas@[REDACTED] ext 5785 and let me know. We can then work out an interview time which suits your schedule.

This project has been reviewed and approved by the Massey University Human Ethics Committee, WGTN Application 04/44. If you have any concerns about the conduct of this research, please contact Professor Sylvia V Rumball, Chair, Massey University Campus Human Ethics Committee: Wellington/Palmerston North, telephone 06 350 5349, email humanethicspn@massey.ac.nz.

Approved by the [REDACTED] Ethics Committee on 24 January 2005 [REDACTED] Reference number 04/226.



**Project Title:**

A case study for developing professional knowledge in flexible learning: The changing practice of university academics

**Participant Consent Form**

This consent form will be held for a period of six (6) years

**Project Supervisor:** Alison Viskovic, Massey University

**Researcher:** Julia Hallas, [REDACTED]

- 
- ☐ I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.
  - ☐ I agree / do not agree to the interview being audio taped and transcribed.
  - ☐ If I withdraw, I understand that all relevant tapes and transcripts, or parts thereof, will be destroyed.
  - ☐ I do / do not wish to receive a copy of the report from the research.
  - ☐ I agree that information will be used only for this project and publications arising from this research project.
  - ☐ I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
  - ☐ I agree to participate in this study under the conditions set out in the Information Sheet.
  - ☐ I agree / do not agree to let Julia Hallas electronically observe my [REDACTED] course for 48 hours. If agree, please provide access details below:

[REDACTED] course name: \_\_\_\_\_ Code: \_\_\_\_\_

Participant Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Participant Name - printed \_\_\_\_\_

**Note: Please retain a copy of this form.**

This project has been reviewed and approved by the Massey University Human Ethics Committee, WGTN Application 04/44. If you have any concerns about the conduct of this research, please contact Professor Sylvia V Rumball, Chair, Massey University Campus Human Ethics Committee: Wellington/Palmerston North, telephone 06 350 5349, email [humanethicspn@massey.ac.nz](mailto:humanethicspn@massey.ac.nz).

Approved by the [REDACTED] Committee on 24 January 2005 [REDACTED] Reference number 04/226.



**Project Title:**

A case study for developing professional knowledge in flexible learning: The changing practice of university academics.

**AUTHORITY FOR THE RELEASE OF TAPE TRANSCRIPTS**

This form will be held for a period of six (6) years

- 
1. I confirm that I have had the opportunity to read and amend the transcript of the interview conducted with me.
  2. I agree that the edited transcript and extracts from this may be used by the researcher, *Julia Hallas* in reports and publications arising from the research.

**Signature:**

**Date:**

**Full Name - printed**

This project has been reviewed and approved by the Massey University Human Ethics Committee, WGTN Application 04/44. If you have any concerns about the conduct of this research, please contact Professor Sylvia V Rumball, Chair, Massey University Campus Human Ethics Committee: Wellington/Palmerston North, telephone 06 350 5349, email humanethicspn@massey.ac.nz.

Approved by the [REDACTED] Ethics Committee on 24 January 2005 [REDACTED] Reference number 04/226.

**Online LMS OBSERVATION FORM**

**Date of access:**

Participant code:

ONLINE course code/name:

Note evidence of teaching and learning strategies (Do not collect any student data)

1. Planning and purpose

2. Process

3. Feedback

4. Assessment

Appendix D

1. Survey analysis codes

Cb	Collaboration	Fass	Formative assessment	Ln Mat	Learning materials
Disc	Discussion	Fb	Feedback	St	Learning strategies
Ev	Evaluation	Grp	Group work	Te Res	Technology resources

Table 1: Codes for question 6

A	Administration
R	Research
M	Management
T	Technology

Table 2: Codes for question 8

2. Example of survey analysis

Please see the example on the next page.

- Regular assessments. Very good student feedback as an ongoing tool to let them know how they are doing. (fass) (fb)
- Integrated assessed case study: forces students to learn as they go; since they are so assessment focused the case required students to apply theory taught in class that week to a specific business problem which progressively gets more complex as the weeks go by! (st) Case study
- Completing pro-forma documents which they reload for feedback, feedback from students. (fb)
- Too early to comment; many ideas but no room to implement. Obtain regular feedback from students; encourage them to give input. (fb)
- Establishing discussion forums for group work. Student feedback. (disc) (grp) (fb)
- Use of CD roms to illustrate interpersonal skills and assessment skills. Their feedback – overwhelmingly positive about it ‘hooking’ them in, stimulating imagination. And discussion forums – engaging with medium, and with each other. (st) (cd rom) (Telar) (disc)
- ✓ • Unsure.
- Using AUTonline to link students to websites that are relevant and useful, related to course material but supplementary. Students have commented on how valuable as an additional tool this is (rather than spending hours looking). It also seems to give them a frame for further searching. (st)
- Difficult to assess effectiveness – AUTonline is used as an aid to support in class learning.
- A combination of problem-based exercises and discussion board. Effective because the problems allow development of face-to-face knowledge and the discussion ensures that this is done by the class as a whole, not as individuals. (st) (pbl) (disc)
- Small group discussion board. Each student is free to participate (including those who would normally stay quiet in class). It seems a safe place to critique practise and to play with ideas. ‘Writing’ grows thinking. (disc) (grp)
- In terms of support for face to face, it has been the data repository approach. i.e. email ability of material from home. Effectiveness assessed by student comments on assessments forms. Previously, while distance teaching online small group meetings were most effective.
- This is not easy to answer. I have a range of activities online. Text reading and exercises, labs, problems for discussion and sharing with other students, quizzes, worked examples and of course the forum and applets. Motivated students have appreciated the resources and especially the opportunity of a (disc) (fass) (LnMat) (Telar)

## **Appendix E**

*Example of annotated notes on an individual interview*



J So the way you promote learning, your philosophy hasn't changed whether it is online or f2f?

P No except I find some aspects of it more rewarding in that often in a class situation it was difficult to get some students to interact because of their natural reservedness or natural reticence to partake.

And I know certain students have an inferiority complex or a concern that their opinion may not matter or is not important. Whereas online you can dictate... although I don't like to, but you can require students to enter into discussion at least a certain number of times.

Online you can't hide, you can see the students being interactive. You get a number of students who are very interactive and others who are not quite so interactive, but you are able to see that very clearly.

And there are other things that I've implemented that have been a bit of an experiment, that have proved really valuable. And other areas on feedback from students... haven't been quite so successful.

J Think about the kinds of learning experiences (eg, social and interaction activities) you arrange for your students. Have they changed in your flexible course, if so how? Why are these experiences appropriate?

P Because the students come in for block weeks, we have a social forum. I call it the café discussion area and they have used it in the past where they have arranged to meet at a restaurant after one of the courses. They've been able to arrange that online, so that has given them some interaction.

## **Appendix F**

*Phase two analysis from individual interview*

**C FEEDBACK** How do you provide feedback to students? How has this changed in your online course?

Feedback	F2f	Adapted for online	Developed for online
<b>Oral feedback</b>  Telephone feedback	Verbal feedback to students may be forgotten  Telephone	Feedback in a discussion forum is valued because it is permanent.  Telephone	How much are students not understanding online? I can't see them, so I don't know what they are thinking. You can't assume their lack of contribution means they don't understand or are not interested. I have to phone or email them to find out.
Written feedback on assessments / assignments x5	Provide feedback in hardcopy form and attach to summative assessments.	Did not adapt for online because I want to keep the discussion forum free of critique, a place to entice and engage students.	
<b>Written feedback</b> email x4  LMS digital drop box	Students send draft assignments, which I check via email.	Students send draft assignments, which I check via email.  Students send drafts via LMS function	
<b>Written feedback</b> Discussion forum			Post grad. peer review of assessments, provide formative feedback to students.  Lecturer provides regular feedback to students in forums. X6  Written feedback must be written

			<p>carefully, as I am not sure how students will perceive it.</p> <p>Some forums are specifically created to give feedback on individual activities, group activities and assessments. X3</p>
<b>Formative assessment</b> Online tests x2			<p>The LMS test function is used to build feedback into question/answer responses. Positive feedback from students.</p>
<b>Forward feedback x2</b> Once students have completed an activity or assessment, feedback comes too late.			<p>Use the LMS functions to pre-empt student questions and difficulties.</p>
<b>Advantages of online feedback</b>	<p>Snail mail would take up to 2 weeks for distance students.</p>	<p>Students get more feedback now, due to the number of available channels. X5</p> <p>Faster because it cuts down on paper handling: printing and storage.</p>	<p>It is instantaneous.</p>
<b>Future intentions</b> Need to think of more ways to provide feedback.			