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# **Learner Success in eLearning: room for improvement – but how?**

An analysis of the problem of retention and completion in  
an online programme

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

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## Abstract

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Lack of time to work on their online programme was a more significant barrier for students on an online programme than problems such as cost, access to a computer, computer difficulties, childcare or other family responsibilities, or lack of employer support. A 2004 online survey of 77 students of the online Public Sector Knowledge programme, at Change Training, Wellington, followed up by telephone interviews and a focus group session, showed that 92% of students gave 'lack of time' as the critical factor making it hard to study online, and that even when they had dedicated time to do it, work-based tasks and colleagues took priority over working on their online programme.

Findings also showed that allied to the time issue was the evidence that for the majority of students their goal for the programme was not to complete assessments, but to get what they wanted from the learning materials. Without the need to gain the qualification for personal or work reasons, most students chose to bypass the time-consuming summative assessments that constitute a 'completion' and effectively 'drop out'.

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## Chapter One – Introduction

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In this section I outline my responses to four key questions: “Why am I doing this research?”, “What is my interest in the subject?”, “Why is retention important?” and lastly, I answer the question: “How am I going to do the research?”

### **1. *Why am I doing this research?***

Early in 2004, a report prepared for the company I work for, Change Training Ltd, identified that student completion rates on our online Public Sector Knowledge (PSK) programme were unacceptably poor. The company was already carrying out a range of student support activities including regularly ringing or emailing students to check on progress, to encourage, or to answer any difficulties they were experiencing. Assessment return times were monitored to ensure we were working within our own tight timeframes. Throughout the remainder of 2004 we continued to monitor completion and retention rates via reports drawn from the database. The PSK programme has ‘open’ enrolment, that is, enrolments are taken continuously, so completion was something we could measure at any time, not just at the end of a traditional academic year, as in many face to face, and even distance programmes. A ‘completions committee’ was established to co-ordinate and focus efforts within the organisation towards the goal of improving the completion and retention rates. A number of strategies were chosen with that goal in mind and were progressively implemented. Our choice of strategies was largely informed by what our students told us were barriers, and our reading of the retention literature, (Martinez, 2003; Scalese, 2001; Simpson & Head, 2000; Simpson, 2003, 2004; Wang, Foucar-Szocki, and Griffin, 2003) and involved all staff who had any point of contact with students, as well as staff who actively recruited students and liaised with public sector employers. Over the months further reports made it apparent that the measures we were instituting were not targeting the real source/s of the problem. Something different was required to address the completion and retention problem.

With poor completion rates, there are financial implications, accreditation concerns and the potentially even more damaging negative impact on reputation. Although completion rates were trending upwards they were still a very long way from meeting

the 50 percent minimum target set by the funding body, the Tertiary Education Commission (TEC).

### **Conflicting evidence**

Our online learning coaches (OLCs) provided anecdotal evidence from participants about barriers to learning that they were experiencing. We were puzzled by what appeared to be a significant discrepancy between what students reported about the programme and their experience on it (consistently ranking between 75 and 95 percent satisfied) and the quantitative data that showed students were dropping out and not completing the programme. Why would students not bother to complete a programme they seemed to be enjoying and reportedly found relevant and useful in their work? Was the workload just too much? Was the large number of assessments an overwhelming disincentive? Was the problem the fact that the programme was of no financial cost to the participants, or employers, and thus may be undervalued? And then there was the question of what issues and problems did the *online* environment create for students over and above the distance nature of the programme? Was there, in fact, anything that we as an organisation, could do that would raise the completion and retention rates to anything near deemed acceptable by the funding provider? As Nitsch (2003) stated, a low rate of student retention (and, hence, completion) can be a red flag signalling poor quality education that is not meeting the needs of the student. These and a host of other questions remained unanswered. I indicated that I would be keen to undertake further research to (hopefully) provide some definitive data and insights into the complex issues surrounding retention and successful completions of students on the programme. Hence, this research project was born. In doing so, I was able to integrate a work-based research interest and need with my own personal interest in why students fail to complete the course, and with my professional development towards fulfilment of a thesis for a Master of Education.

## **2. What is my interest in the research?**

Two aspects of my own background are relevant to this thesis and warrant mentioning here. I have chosen to do this particular research because of my personal interest in adult learning and, more recently, of adult online learning and because of the particular role I have at Change Training. As manager for tertiary developments, a

major aspect of my role is to oversee the development and implementation of new online learning materials. If students have problems completing our online learning programmes I need to know that we, as a provider, have done everything institutionally possible to enable them to complete successfully. I also hoped that research into completions and retention on the particular public sector knowledge programme would potentially be transferable across a range of programmes and of benefit to large numbers of students.

### **The research questions**

The aim of this research is to find some answers to the question: “What particular interventions and strategies will improve the retention and completion rates of students on the Public Sector Knowledge online programme?” Methodically testing ideas that had worked in other countries, or on different courses and with very different participants could take us a long time, if ever, to discover the particular combination of interventions that worked in our situation. We did not have the luxury of unlimited time. In seeking to answer my research question as stated above, a related area of enquiry became apparent: “What internal and external barriers to learner success do participants experience?” Answers to this question were sought through analysing qualitative data gained firsthand from students in focus groups and telephone interviews, and, to a lesser extent via the mechanism of an online survey sent to all participants on the PSK programme. These processes, would, I hoped lead us to a range of possible interventions to enhance learner success. Whilst there have been many useful international studies in this area (Z. Berge, & Huang, Yi-Ping, 2004; Nitsch, 2003; G. Wang, Foucar-Szocki, Diane, and Griffin, Oris, 2003), little research has been conducted to date regarding the extent of the problem in, and how it affects, New Zealand online educational programmes, and, more importantly, what can be done to improve the likelihood of student success. It is hard to argue with Powell (1990) when he states that “...questions and interventions related to learner success are of both theoretical and practical importance.” Although the theory and practice of online learning is still in its infancy, eLearning options continue to be on the increase in New Zealand and internationally. The full extent of developments is difficult to ascertain in a sector that, despite governmental pressure for educational providers to collaborate, remains competitive and unwilling to disclose ‘commercially sensitive’ information such as new developments and initiatives in eLearning. In a

background paper prepared for Institutes of Technology and Polytechnics New Zealand (NZCER, 2004) the authors report that in 2004, forty-nine percent of all tertiary students had some degree of web use in their course, though only 17 percent required it. Extent of participation in online learning supported in the workplace is not known.

This research project seeks to contribute to the literature about the New Zealand context for online delivery of educational programmes, recognising that the field is both relatively new but growing fast.

### **Terms**

The retention and completions literature highlights the fact that the very terms have a multiplicity of interpretations. Definitions are important in this discussion, there is a lot riding on them. Retention has, for instance, been described by Martinez (2003) as “the number of learners or students who progress from one part of the educational program to the next.” Kerka (1995) takes a learner-centred approach, saying that retention is, “to keep learners in programs until they achieve their goals.” This definition has appeal, however, throughout the document I reference the Ministry of Education definitions where *retention* describes the length of time a student remains on a course of study – whether they complete the course or dropout before it’s finished. The terms *attrition* and *drop rate* are synonymous with retention. Attrition takes place when a learner leaves the course of study, for any reason. Institutions might also differentiate between the ‘dropout,’ who never returns and never completes the course of study, the ‘stopout,’ who leaves but comes back later to finish (even beyond the stated course end date), and the ‘attainer,’ who leaves before completion but who has nevertheless achieved some personal goal – a specific skill or knowledge level for instance. Understanding the differences, and identifying examples of each kind of attrition, could, according to Martinez (2003) be useful information in guiding improvement efforts. “Course retention measures how many learners complete a course, both successfully and unsuccessfully, as a percentage of the number of learners who validly enrolled. According to the Ministry of Education’s definition of successful qualification for an efts (equivalent full time student) funded provider, a ‘*successful completion*’ is someone who successfully completes course requirements, thus gaining an award of some form (Single Data return Manual, Ministry of

Education 2003 v 6.2, p 22). Courses and programmes that are funded by the public purse via the student component funding mechanism (also known as eft), must report retention and completion rates annually. The completion rate has assumed the status of a measure of educational quality and as such is an effective lever for the Tertiary Education Commission to apply in funding decisions. Online delivery of programmes is not yet differentiated from face-to-face or traditional distance learning delivery in the Commission's view, and must meet the same retention and completion criteria.

### **3. Why is retention important?**

In this section I examine the issue of retention from three viewpoints: why is retention important to government, to tertiary organisations and what do we know of retention as it relates to online provision?

#### **Retention and the organisation**

Where does this leave online and distance education providers when that mode of delivery of adult education programmes suffers from low retention and completion rates? Change Training's most recent Assessment of Strategic Relevance for the Public Sector Knowledge qualification granted it strategic relevance on all criteria except one – completions. Funding for new enrolments was peremptorily withdrawn. From an organisational point of view then, shedding light on the multiplicity of factors governing online retentions on the programme has become a necessary activity. Until recently, New Zealand educationalists concerned about the quality of their courses and about the myriad of factors that might lead a student to drop out of a course could identify there was problem, research possible causes, develop mechanisms to overcome them, implement them over time, and evaluate their effectiveness. Retention (leading to poor completion rates) is a complex area – and not one where quick fixes are likely or even possible. My own experience of developing a range of strategies to counter poor retention rates on the PSK online programme has been like peeling an onion, or debugging software – you have to get through a lot of surface layers before you get to the root cause. Each problem that is addressed seems to clear the ground for another to become visible. Surface layers are good distracters; concealing underlying issues, as well as being frustrating to get through. This study represents an attempt to reveal what lies beyond the distracters.

It is relevant here to mention *why* online or web-based was the chosen methodology for delivery of the PSK courses. The courses were designed to meet the core component of the new National Certificate in Public Sector Services, just released by the Public Sector Training Organisation (PSTO). The target market for the courses was adults employed as public servants. The developers knew that if this group had any chance of completing (and, indeed, gaining any access to) the new qualification, then they would require training that did not take them away from their day-to-day work for large periods of time. The qualification comprised unit standards ranging from level 3 on the Framework, to level 5 (equivalent to the first year of an undergraduate degree). The learning outcomes for the majority of the programme required cognitive learning – where the student uses recall, learns concepts, analytical skills, evaluates data and uses this knowledge to arrive at solutions, as opposed to programmes that require students to use and demonstrate physical skills, and thus were ideally suited for an online delivery (R. W. Taylor, 2002). Carey (2001) notes that in her experience and observations of over 600 online students, it appears that “concrete, specific skills lend themselves well to online learning, while more abstract concepts do not” (Carey, 2001). Even aspects of the programme that seek to change attitudes, can, Taylor (2002) has found, be effectively taught online if online information is used as an adjunct to face to face courses in the workplace. Online delivery was still very much in its infancy in New Zealand workplaces at this time, (2000) but it seemed the ideal format to meet the kind of learning needs covered by the programme. It was this factor, more than any other that convinced the developers to go online, despite the costly and complex exercise they knew it would be.

### **Online and eLearning**

Throughout this study I use Kenner’s (2003) definition of the terms ‘online education’ or ‘eLearning’ to mean any form of learning or teaching that takes place via a computer network. Online delivery is largely market driven and the demand for this model is now at local, national and international levels (McNickle, 2001). The New Zealand Ministry of Education distinguishes between eLearning course delivery modes that use the terms *web-supported*, *web-enhanced* and *web-based*. A web-supported course provides students with access to limited and optional online resources. If a course expects but does not require students to access online materials

it is web-enhanced and web-based if students are required to access the online resources. In this study, online instruction takes place in the context of distance education, in which learners, teachers, assessors and support people are all located in different places and all or most of the interaction takes place through the COLTS software, developed specifically to deliver online web-based learning for New Zealand conditions. The PSK online programme makes use of many of the tools available, but does not currently include discussion forums or tools which rely on the learner having high bandwidth; a fast and 'generous' Internet access point. This was a deliberate choice of the developers as the majority of the intended end users of the programme were public servants, completing it at work, and many would not have unlimited and untrammelled access to fast Internet connections.

### **Online learning – the beginnings**

Since 1994, the World Wide Web and related Internet resources (email, chat, news groups) have become an increasingly viable component in higher education (Schutte, 1997). Blackboard, an eLearning software platform adopted by more than 2000 education providers worldwide, has gone from 15,000 students in 1998 to 12 million in 50 countries in 2004, and is still growing.

In the mid-to-late-1990s the spread of telecommunications technologies and electronically networked business strategies provided the context for the growth of eCommerce. The information age also created the preconditions for online learning to develop within a framework where students are exposed to many online customer services and learning can be viewed as just another service available online (Eklund, Kay, & Lynch, 2003). Dramatic improvements and developments in hardware, software and access to the Internet combined with the continued mainstreaming of technologies into our lives through eCommerce and entertainment have provided over the past five to ten years, a powerful and unstoppable force for the growth of eLearning, exemplified by the growth of Blackboard. The New Zealand e-Government strategy has seen the Internet become a major way the public sector communicates with its communities and with itself. The knowledge economy environment puts additional pressure on individuals and organisations to continually acquire new skills and keep pace with change, which usually involves keeping abreast of technology advances. For many adults in work or not, attendance at a traditional

face-to-face institution in order to acquire new skills and knowledge is out of the question for a variety of reasons: distance, time, and negative perceptions are common reported barriers. Correspondingly, adult learners who need flexibility of time and place to avoid disruption of family and work life find the online form of delivery of course material an attractive way to gain knowledge and more and more adult learners are going back to 'school'. Learning online can provide adult students with a programme that is self-paced, presents unlimited and private opportunities for review of material and practice of any formative exercises. Learning online also allows learners to follow up their own areas of interest and construct to a greater or lesser extent depending on the flexibility of the programme, a personal learning journey. These advantages can assist students with a wide variety of personal backgrounds and educational experiences that are seeking a way to meet their learning needs.

When looking at the percentage of students who drop out of traditional bricks and mortar higher education, Tinto (1982a) states that this has held constant at between 40-45% for the past 100 years. The lack of retention, or dropout, has historically challenged educational systems and seems to be especially acute in distance learning (Z. Berge & Huang, 2004). In the online learning context, dropout rates appear to be higher than for traditional courses (Carr, 2000a; David P Diaz, 2002a; Frankola, 2001b). Many studies have sought to identify why students drop out of programmes before their natural conclusion (Berge & Huang, 2004; Diaz, 2002b; Eklund et al., 2003; Trembath, 2004; Wang, Foucar-Szocki, & Griffin, 2003; Zepke, Leach, & Prebble, 2004). Literature outlining differences between online, distance and face-to-face delivery modes and retention and completion rates are explored in more depth in Chapter Two.

Students do not always drop out of their course for reasons of dissatisfaction (Perin & Greenberg, 1994) – indeed, the opposite is often true – they have got what they needed out of the programme and simply moved on (Kambouri, 1994). The phenomenon of 'stopping out' i.e., one or more cycles of attending, withdrawing and returning, is typical of adults who must place the student role on the back burner temporarily. Counting them as dropouts would be misleading (Kerka, 1995). And Zepke (2005), comments from experience: "For many students the benefit of doing the course is not in the completion but in the doing."

#### **4. How am I going to go about the research?**

This project seeks to identify:

- internal and external barriers to learner success on a particular online programme
- a range of possible interventions to enhance learner success.

A range of interventions to improve learner success will be implemented. Finally, the outcomes of those interventions will be analysed and evaluated. The implementation and evaluation stages will be carried out as part of the researcher's independent work and do not fall within the scope and capability of this project.

Chapter Two surveys the literature to provide a background to the two key concepts of this study, online learning, and retention. The literature is examined and differences between online, distance and face-to-face delivery modes are outlined, with particular reference to retention and completion rates.

Chapter Three outlines in detail the methodology chosen for the project, ethical considerations and how these were overcome, and the selection of participants. How the data was collected is described, procedures used for data analysis and issues of reliability and validity are also traversed.

Chapter Four presents three sections: the first section answers questions about the respondents and the total population from whom the respondents are drawn. The second section presents the survey results and explains and explores the data. Data will be analysed around four key questions: What do the data tell me about the confidence of this group in using computers (for online learning); what motivates someone to learn online; what impedes someone from learning online; and what makes for effective online course design for this group? These four questions have been chosen because they each encapsulate a theme that has a significant impact on retention and, or, completion. The final section presents conclusions.

Chapter Five presents key themes and findings of the study; the major patterns in the data, and whether there is agreement or disagreement with previous work already presented in the review of literature (Chapter Two).

In the final chapter – Chapter Six, I draw conclusions from the study in an attempt to answer the initial research questions: “What particular interventions and strategies will improve the retention and completion rates of students on the Public Sector Knowledge online programme?” and “What internal and external barriers to learner success do participants experience?”

Findings related to those questions are presented in three sections: Conclusions, Recommendations and Implications for further research.

## Chapter Two – Review of the literature

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The first research question I address in this study is to identify what interventions will improve the retention and completion rates of participants enrolled on an online Public Sector Knowledge programme. Related areas of research are identifying the internal and external barriers to learner success and participants' experience. This chapter begins with a survey of the literature to provide a background to the two key concepts of this study, online learning, and retention. The challenges created for students and providers in an *online* learning environment are examined with particular reference to retentions and completions. Retention has historically been problematic for adult education providers, particularly in distance education provision. The study of retention and completion in online education courses, although new in itself, has evolved from retention research in distance education, which in turn, had its roots in retention studies in traditional classroom settings and studies of non-traditional students.

The chapter concludes with a brief examination of developments in the New Zealand tertiary educational policy over the past two decades and which provides the context within which the current study is situated. Issues of debate and interest identified in this chapter will be revisited in the analysis and discussion of survey and focus group results, described in later chapters.

### Overview of online learning

Most definitions of distance education encompass education that takes place when the instructor and student are separated by space and/or time. Today, the gap between teacher and learner is increasingly being bridged through the use of technology, particularly satellite and online technology, but also still includes more traditional delivery methods, such as the postal service. Taylor (2001) usefully describes 'generations' of distance education and their associated delivery technologies as:

#### First Generation – The Correspondence Model

- Print

#### Second Generation – The Multi-media Model

- Print
- Audiotape
- Videotape
- Computer-based learning
- Interactive video (disk and tape)

#### Third Generation – The Telelearning Model

- Audioteleconferencing
- Videoconferencing
- Audiographic communication
- Broadcast TV/Radio and Audioteleconferencing

#### Fourth Generation – The Flexible Learning Model

- Interactive multimedia (IMM) online
- Internet based access to WWW resources
- Computer mediated communications

#### Fifth Generation – The Intelligent Flexible learning Model

- Interactive multimedia (IMM) online
- Internet based access to WWW resources
- Computer mediated communications, using automated response systems
- Campus portal access to institutional processes and resources (J. Taylor, 2001).

The passage of time between succeeding generations is shrinking, as advances in technology speed up. In September 1969 the first host-to-host message was sent from UCLA to Stanford Research Institute and by the end of 1969 four host computers formed the initial ARPANET network and the seeds of the Internet were sown. Since its inception, the development of computer-mediated communication technology has been adopted by educationists to assist in achieving teaching and learning goals. In the early stages its use was limited to messages exchange (Email, bulletin boards) and information search, retrieval or delivery. By the early 1990s the World Wide Web

was born bringing with it the widespread and rapid adoption of browsers and sophisticated communication tools, and easy access to information linked throughout the globe (Mioduser & Nachmias, 2002). In the years since its release, the World Wide Web has become a prominent new space for people to communicate, work, trade or spend leisure time. And increasingly too, a place to learn (Carr, 2000b).

## **eLearning**

Learning that is delivered through the use of technology i.e., Taylor's (2001) second generation and on, is referred to generally as 'eLearning'. Some writers have suggested that online learning is best conceptualised as "an environment that integrates collaboration, communication, and engaging content with specific group and independent learning activities and tasks" (Sims, Dobbs & Hand, cited in N. Parker, 2004). Online or web-based learning (learning via the Internet, intranets and extranets) is increasingly understood to be a subset of the umbrella term eLearning (Eklund et al., 2003). eLearning has been embraced by business and is the most rapidly growing segment of the training enterprise, with an increasing number of organisations adopting eLearning as a training delivery mode (Alstete & Beutell, 2004; Mungania, 2003). In the US alone, the eLearning market has grown from \$197 million in 1997 to a predicted \$18 billion in 2005 (Mungania, 2003). Driving forces behind this growth are given as:

- Technological advances such as computers, the Internet and the World Wide Web
- Changing demands of consumers and customers
- Demand for life-long learning
- To improve employees' performance
- Potential to cut costs, lower employee turnover , and raise profits
- Potential to cut training costs
- Potential to reach more trainees and sidelined populations
- Potential to deliver just-in-time training
- Access to expertise and resources irrespective of distance.

One of the distinct advantages of distance education is that it increases education access in remote rural areas and to busy adult students who, according to Carey (2001), “have not been served well by traditional learning formats.” Higher education has been slower to adopt the new technologies, although it is showing signs of catching up. In New Zealand, by 2004, forty-nine percent of all tertiary students had some degree of web use in their course. This use was not consistent across the sector, however, with most wananga programmes having no significant web use and only 5 percent of polytechnic students in programmes involving significant web use (NZCER, 2004).

### **The challenge of learning online**

Online teaching and learning brings with it unique issues that could impact eLearners’ satisfaction (Hara & Kling, 2000; Shea, Fredericksen, Picket, Pelz, & Swan, 1999), learning (Bocchi, Eastman, & Owens Swift, 2004; Nitsch, 2003), involvement, and even completion (O’Brien & Renner, 2002; Simpson & Head, 2000).

There is a significant body of literature devoted to examining what constitutes successful online learning experiences and what barriers and challenges online learners face and must overcome (Muilenburg & Berge, 2005; Newton, Hase, & Ellis, 2002; NZCER, 2004; Oliver, 2003; Phipps & Merisotis, 2000; Singh & Reed, 2001; Volery & Lord, 2000). It is acknowledged that an online learning environment can be challenging socially and technically for learners (Kirkby, 2000; Kumarawadu, 2004; Mason & Weller, 2001; McNickle, 2001; McVay Lynch, 2001). A note of caution is sounded by Muilenburg and Berge (2005) who warn that their research design using barriers to learning online as the dependent variables does not speak to causation. For instance, they say: “a lack of social interaction was the most severe barrier as perceived by the students overall. Therefore, it seems logical that improving social interaction in online learning would lead to a more effective and enjoyable educational experience – one that students would want to repeat” (Muilenburg & Berge, 2005). They go on to say that it may be that increasing social interaction would lead to educational benefits, or, conversely, it may be that because students enjoy online learning, or believe that online learning is as effective as in-person education,

their social interaction is improved. Muilenburg and Berge (2005) suggest that further investigation of causation may be a useful line of research for distance educators and researchers interested in reducing student barriers to distance education and improving online learning.

### **Expanded skill set required**

Martinez (2003) claims that many learners who function well in classrooms, e.g. who know how to interact with teachers and with other students, and who know how to take tests, are not ready for online learning which requires an expanded set of skills to be successful. These skills include: logging-on and access of the course materials; being able to interact with the online course platform, accessing information through search engines, typing in a word processing program, and sending or retrieving emails i.e., the basics skills needed to effectively manage online course content (Martinez, 2003). There is general agreement in the literature (Frankola, 2001b; Mason & Weller, 2001; Nitsch, 2003; Simpson, 2003) that strong independence and good time management are also seen as necessary for successful completion of courses. Students must be able to control outside matters, and juggle multiple responsibilities, all of which compete for study time, a commodity that adult learners typically lack. Mason and Weller's (2001) research leads them to claim: "Time is now the barrier that distance used to be in higher education."

Managing time and juggling multiple responsibilities are, of course, not peculiar to the online learner but McVay Lynch (2001) found one factor that was: the domain of online learning itself was new to the students in her study, and that many lacked fundamental computer skills and were newcomers to the Internet and that this lack of experience impinged on their ability to adapt to the new learning environment and contributed to the "abysmal" success rate in her institution's online courses. Beasley and Smyth (2004) found that in their study of Masters level engineering students, the students did not always use the online learning environment in all the ways intended, nor in the most effective ways. They put this down, in part, to the fact that the online environment was new to the majority of students. Anderson (2004) regards the online learning environment as a unique cultural context in itself. He notes that while many

students will be new to this context, increasingly, students will come to online learning with “preconceptions gathered from both formal and informal experience in virtual environments. They will exercise their mastery of communication norms and tools, some of which will not be appropriate to an educational online context” (Anderson, 2004).

### **Gender differences?**

Research findings are conflicting when it comes to whether gender is a factor in persistence. According to Volery & Lord (2000) variables such as prior experience, having a computer at home, computer experience and personality produce gender differences towards computers and in turn, contribute to poorer success rates for women in online delivery modes. However, this was not supported by Bocchi, Eastman and Swift (2004) who report on a study at the University of Central Florida which found that women were eight percent more likely than men to succeed in online learning by completing the course with grade of C or better. McSporran & Young (2001) also report that in their experience women achieve better results than men. Likewise, Woods (2002) reports that in his study, gender did not play a role in determining the frequency of contacts a student needs to feel connected with the instructor and other students and that women did not have significantly different expectations when it comes to the sufficiency of online interaction. However, Woods’ (2002) study does suggest that both quality and frequency of interpersonal and group communication are critical factors in the relative success of online distance courses. Muilenburg and Berge (2005) found that gender, as an independent variable, did show significant differences in learning, attitudes, motivation and experiences in online learning, although they warn that their research did not address causation. In contrast, gender, ethnicity, subject, level of prior English classes, or ESL did not influence persistence in the class, according to a study by Menager-Beeley (2001).

### **Motivation**

Motivation (the psychological processes that cause students to persist in meeting their learning goals) is a further factor identified by many writers as critical to online learner success (Clark, 2001b; Frankola, 2001b; Kumarawadu, 2004; Menager-Beeley, 2001; Muilenburg & Berge, 2005; Nitsch, 2003). Kumarawadu (2004)

suggests that outside the traditional classroom setting, procrastination is a factor: it's only too easy to get distracted and put things off when one runs into a glitch or a problem. Alienation and frustration can set in, and the best study intentions begin to unravel as time and patience dissolve (Kumarawadu, 2004). Menager-Beeley's (2001) study into motivation and drop out behaviour of 150 students on two community college web-based courses. She found evidence that student motivation can be ascertained in the first week of class and is a strong indicator of 'at risk' status and later dropout. Clark (2001b) examines motivational obstacles specific to eLearning and finds six obstacles that have a direct impact on online completions:

- Getting started. The classroom was seen to provide a degree of compulsion (timetabled, and once learners attend, tend to complete the course) that eLearning lacks. Procrastination prevents action.
- eLearning is dull. The learner must come to the learning with their interest already stimulated. eLearning materials may need to be designed towards meeting personal goals rather than organisational goals.
- No time at desktop. The sheer force of workload can push learning to one side. Work has short-term goals, learning long-term goals. Work goals are immediate and obvious, learning goals need reflection and planning.
- Classroom equals training. Most people (especially adults in the workforce) equate learning with courses, curricula and classrooms. In most organisations, training is still synonymous with classrooms and trainers, and this perception is deep-seated, hard to shift and has a major impact on motivation to engage in online learning in the workplace.
- A course is time off work. Some courses are unplanned reward schemes. The 'culture of reward' creates a culture of expectation, where learners feel that eLearning is simply a cost-cutting exercise.
- Training is networking. Courses do offer an opportunity to share knowledge and network socially with others.

## **Comparisons with classroom based learning**

Perhaps the most quoted and misunderstood body of research comparing distance education outcomes with that of traditional classrooms, has been the influential work of Russell (1999). Russell reviewed 355 studies on distance education produced from 1928 to 1998. Some of the early studies examined correspondence courses, but most compared instruction over videotape, interactive video, or satellite with on-campus, in-person courses. Students were compared on test scores, grades, or performance measures unique to the study, and also on student satisfaction. Consistently, based on statistical tests, “no significant difference” between the comparison groups was found. This led Russell to conclude: “There is nothing inherent in the technology that elicits improvements in learning,” although “the process of redesigning a course to adapt the content to the technology can improve the course and improve the outcomes” (p. xiii). “No matter how it is produced, how it is delivered, whether or not it is interactive, low-tech or high-tech, students learn equally well” (p. xiv). However, only 40 of the 355 studies specifically included computer-based instruction, and the compilation was completed prior to the explosion of courses using the Web. Researchers have critiqued Russell’s (1999) work (Ramage, 2002; Wang et al., 2003) suggesting that a serious limitation of his work was that his studies were drawn from those learners who completed the entire learning modules as designed and required, and did not include those who might have started a particular learning programme but discontinued without finishing it. Ramage (2002) conducted his own literature review into the “no significant difference” phenomenon – asking “Does technology impact learning?” His review found no study, no evidence of any kind that categorically proved that technology does not impact learning in some way, positively or negatively. Interestingly Ramage (2002) found no studies that exposed lower grades or test scores of online students compared to traditional students.

## **Retention**

This next section examines the literature related to just those students who start a particular learning programme but who dropout without finishing it.

eLearning seems to hold the promise of educational opportunities for vast audiences of learners across the globe (Kumarawadu, 2004), but, he points out, this is at risk if

the retention problem is not addressed. Newtown (2002) puts it even more strongly: “the widespread rhetoric of promises for more flexible access to training and the subsequent rapid adoption of these goals by governments, educational institutions and industries have not been accompanied by an understanding of the factors and processes that contribute to effective implementation of online learning.” Closer to home, Billings (2002) deplores the significant cost – moral, social and economic – of the increasingly poor levels of student retention across tertiary educational institutions within New Zealand and internationally.

The problem of adult dropout or attrition is not new, and is a persistent and perplexing problem for providers of adult education (Kerka, 1995; McVay Lynch, 2001; Nitsch, 2003; J. Simpson & Head, 2000). Retention and attrition have been actively researched for over seven decades, resulting in a substantial body of information on the complex and multidimensional factors associated with student dropout, and suggesting a range of interventions aiming to improve retention (Berge & Huang, 2004; Billings, 2002; Torres-Gil, Maffris, Garcia, & Roig, 2000; Volery & Lord, 2000). The retention literature has been dominated by US and UK research into traditional students who were typically between the ages of 18 and 24, lived on or near campus, and attended college full time. Later research (Bailey, Bauman, & Lata, 1998; Costello, 2003; Habley & McClanahan, 2004; Tinto, 1975, 1993; Yorke & Longden, 2004) shifted to the “non-traditional” students, or students who were older, attending college part time, and who may or may not have lived on or near campus. The large body of research encompasses many theoretical frameworks and models thought to explain, describe or even predict student persistence, points to the fact that there is no one simple explanation or solution to the retention puzzle (Berge & Huang, 2004; McClanahan & Habley, 2004).

### **Retention in face-to-face institutions**

Vincent Tinto’s (1975; Tinto, 1982b, 1993) models are commonly referenced in the learner retention/dropout literature. Tinto’s concept is that of the “integration” of multiple influences on attrition. He envisages the causes of non-completion of courses as a lack of integration into the social, cultural and intellectual life of the institution:

the individual does not manage to fit in, or in some cases consciously comes not to wish to fit in, with the general ethos and atmosphere of a specific institution, for a host of reasons – academic, social, financial, institutional and personal – acting in a complex relationship to each other. Tinto (1993) believes, therefore, that institutional factors rather than deficiencies of skills or personality on the part of the student, contribute to the more than fifty percent of students entering higher education in the United States who do not complete their studies. Frankola (2001b) notes that this marked an important move away from much of the earlier US research on retention, where student ‘drop-out’ was generally attributed to student deficit factors. Factor analytic studies such as that of Muilenburg and Berge (2005) and Parker (1999) seek to identify the multiplicity of factors contributing to student dropout. Variables and strategies regarding learner success should be considered (Gilbert, 2000) at the individual, course, program, institutional, or systems level. Kerka (1995) also warns against regarding all leavers as a homogenous group, suggesting that they are better understood as subgroups according to length of time (if any) they attended on the programme. Students who leave early in the programme (or don’t show at all), do so for different reasons to those who leave closer to the natural conclusion of the programme (Kerka, 1995). In the late 1990s two UK-based research projects into retention were set up – the first under the direction of Mantze Yorke of Liverpool’s John Moores University, and the second was led by Ozga and Sukhnandan of Keele University. Yorke identified 39 factors which had contributed to student’s decisions to withdraw from courses. His conclusion, on the basis of his own research and that of others, is that retention is related to the students’ experience of the whole institution: what matters is how much they perceive that the staff, taken as a whole, support students (Yorke, cited in Foster 2003). A New Zealand study showed that one third of all students considered leaving their studies at some point, but most had persevered (Eagle & McDonald, 2000 cited in Trembath, 2004).

Finding a unified theory of retention remains elusive (Zepke & Leach, 2005). Their study of the retention literature reveals two distinct, yet overlapping and complementary discourses. In one, institutions seek to integrate learners into existing institutional and pedagogic norms, values and practices. In the other, they attempt to recognise, value and accept learners’ diverse cultural capital by adapting their processes to meet diverse learner needs (Zepke & Leach, 2005).

Although the reasons students leave and the strategies for keeping them differ from adult basic education to higher education (to workplace learning), the goal of retention is the same: to keep learners in programs until they achieve their goals (Kerka, 1995). In any programme adults are largely voluntary participants, but the student role is just one of many roles and responsibilities competing for their time and attention. In fact, personal reasons such as family problems, lack of childcare, and job demands are often cited as the cause of withdrawal. At the same time, adults usually have pragmatic, focused reasons for participating and will leave whenever they feel their goals have been met or if they feel the programme will not satisfy their goals (Kerka, 1995).

### **The distance education mode**

There is a considerable body of research on issues which affect student persistence in a distance education mode (Cannell, 2004; Carr, 2000b; Kirkby, 2000; McClanahan & Habley, 2004; Yorke & Longden, 2004; Zepke & Leach, 2005). Student attrition is of special concern to distance educators because it is generally acknowledged that the rate of attrition is higher than that for face-to-face education providers (Carr, 2000b; Kirkby, 2000; A. Parker, 1999; Thompson, 2004) and can vary anywhere from 30 to 90 percent. Bernath & Rubin (2004) argue that comparisons between retention issues in conventional higher education and distance learning contexts do not take sufficient account of the fact that students studying at a distance are quite different from students in conventional contexts and that institutional settings in most cases are quite different as well. Students in conventional higher education settings combine their courses of study with interests in campus-based social life experiences, whereas students in distance education usually study on top of work and family commitments (Bernath & Rubin, 2004).

### **Retention and online learning**

While the study of retention in distance learning is not new, the study of eLearning or online retention is a relatively new area for research. Some studies acknowledge that their genesis lies in the desire to address the perception that retention in online courses is a universal problem (Martinez, 2003; Moore, Bartkovich, Fetzner, & Ison, 2003; Wang et al., 2003). Student attrition is seen by some to be one of the biggest obstacles

to the credibility – and as a result, the success – of online learning. Factors affecting retention or attrition decisions are described as complex and constantly evolving, particularly with the changing landscapes in learner demography, roles and responsibilities; learning opportunity, needs and perceptions; and modes of instruction and learning (Berge & Huang, 2004). Information on retention of students in online courses is variable (Moore et al., 2003; Wang et al., 2003), with relatively few empirical studies being reported. Many articles reference the problem, and then provide descriptions of best practices to address retention. These best practices typically take the form of better course design, more faculty development, or increased interactivity between students and the faculty (Alstete & Beutell, 2004; Frankola, 2001a; Newton et al., 2002; Oliver, 2003; Oliver & Herrington, 2003; Volery & Lord, 2000). The demographic differences between online and traditional students, is noted. Online students are generally older, have completed more college credit hours and more degree programs than their traditional counterparts (Diaz, 2000; Torres-Gil et al., 2000). The online learner is isolated from much of the social activities of learning and lacks the immediate support of peers and instructors, an important element of student success previously described in Tinto's (1993) model of attrition. Where many of the students seek out online learning because of its flexibility, this flexibility puts a student in the position of having to depend only on oneself to maintain the desire to complete a course. Without an adequate support system, a student could easily lose sight of the reasons for completing the program and decide to drop out, leading to a greater likelihood that a student will not complete online courses than an on-campus course (Nitsch, 2003; Torres-Gil et al., 2000). These support services typically include pre-course orientation, assessment of readiness, online technical and academic support, and opportunities for interaction (Alstete & Beutell, 2004; Moore et al., 2003). Though higher 'drop rates' may accurately reflect a fundamental difference in outcomes between online and traditional educational environments, the mere fact of high drop rates is not, according to Diaz (2002b), necessarily indicative of academic non-success. This point was earlier made by McInnis et al (2000) whose literature review into non-completion in the VET and HE sector concluded that: "Non-completion . . . does not always equate with failure. Non-completion may signify the achievement of desired goals, either in the sense that skills have been gained, employment outcomes realised or articulation to further or higher studies successfully negotiated....the notion of non-completion

from a lifelong learning perspective is less meaningful than it once was (McInnis et al., 2000). Clark (2001b) argues that comparing online and classroom dropout rates is unfair, as the classroom is a social space and it's impolite to walk out. "People drop-out of the classroom experience all the time," he says, "they mentally disengage with the learning experience...get lost, stuck or simply daydream. Dropping out by walking out is socially unacceptable. In eLearning the drop-out is visible" (Clark, 2001b).

### **Making sense of poor retention in online delivery**

If online students typically possess characteristics that research has linked with academic success (e.g., older age and more academic experience), why are they less successful in terms of persisting in a class for the full term? According to Diaz (2002b), one possible answer is the we may have mistakenly defined "drop rate" as a characteristic synonymous with "academic non-success." Diaz (2002b) believes that many online students drop a class may do so because it is the *right thing to do*. In other words, because of the requirements of school, work, and/or family life in general, students can benefit more from a class if they take it when they have enough time to apply themselves to the class work. Thus, by dropping the class, they may be making a mature, well-informed decision that is consistent with a learner with significant academic and life experience (Diaz, 2002b). He argues that we should not consider high drop rates as implicit evidence that online education is inferior to traditional education. Carey's (2001) comparison of online and face-to-face delivery modes hypothesised that dropout rates for the online classes would be higher than for those of the face-to-face classes. Her research findings supported this with results showing statistically significant difference. Carey (2001) offers a possible cause: "the online student has less emotional investment and attachment to the class and may thus find it easier to justify withdrawing. Students in face-to-face classes develop a personal relationship with the instructor, who sees them on a regular basis. This relationship and also concern on the part of the instructor leads to fewer drops in the face-to-face class" (Carey, 2001). She suggests that a separate study should be conducted to determine how the differences in drop rates affect the student outcomes. McNickle (2001) surveyed online learners and found that total support throughout the entire learning and teaching process as well as meeting learner expectations were

essential factors for successful completion of courses. The top five expectations of learners were:

1. Detailed information about what is required to complete the course
2. Detailed information about the courses
3. Security of personal details on the institute's database
4. Instructions on whom to approach for help
5. Information on how to enrol.

McNickle (2001) also points out that online learners are often seen as not requiring the same support as on-campus students because they were assumed to be more mature, more independent and more self-sufficient. She argues that while the majority of online learners do fall under these characteristics, "this assumption overlooks the fact that a learner is learning and therefore requires support" (McNickle, 2001). Wang et al., (2003) argue the case for a focus in eLearning to be on achieving effective learning results rather than on comparing traditional classroom dropout rate with eLearning dropout rates.

### **Online learning and retention in the workplace**

Before I address the issue of online learning and retention in the workplace, it is useful to examine what the literature has to say on completions issues in face-to-face formal industry training. Curson (2004), researched the New Zealand industry training sector and found that "there is no concise, clear definition of what a successful completion is in industry training." An official definition of a successful completion is needed to determine how performance-based funding will be applied to industry training. Curson suggests that these indicators are likely to be based on indicators already formulated for efts-funded providers around completions and retentions (i.e., 50 percent completions). Data on the specific reasons why trainees do not complete training agreements or qualifications is not readily collected by Industry Training Organisations (ITOs), although this is changing (Curson, 2004). The most common reason for termination of a training agreement is because a trainee has moved jobs to a different employer or industry. Another reason Curson found was that the majority

of influences on non-completions “reside with the employer, and are beyond the role of an ITO.” Barriers to learning and training in the workplace and the main influences for non-completions are listed as:

- Lack of quality on and off-job training
- Seasonal influences on labour supply
- Cost
- Training that does not meet skill needs
- Size of enterprise
- Lack of value placed on qualifications
- Lack of support and guidance from ITO
- Unsuitable delivery method, and
- Strained employer/employee relationship.

Curson’s (2004) study, also found that retention and non-completions were an issue for industries with large numbers of young trainees (15-29), such as hairdressing (94%) and hospitality (77%), where employees tend to change jobs often. She concludes that because there are too many variables involved, no single formula can guarantee that learning and training in the workplace will be effective at facilitating successful completions. Hoy-Mack (2003) in her study of workplace assessment within the ambulance sector, notes that the dropout rate for volunteers was very high – for every five who enrolled, only one completed the training. Her study did not, however, attempt to address the completions issue and online learning did not form a part of volunteer’s training.

If learning in the workplace is not without its difficulties then what difference does adding the online dimension make? According to Frankola (2001b), corporate eLearning (in the US) is particularly susceptible to high dropout rates. Shepherd (2000), suggests a possible reason for the high dropout rate, stating that: “the whole point of eLearning is that you don’t have to sit courses through to the end; you pick the bits that interest you and then you get out.” In a survey conducted by Epic Group (Clark, 2001b), UK trainers were asked what the most critical factors were in the success or failure of eLearning in the workplace. Respondents cited support of senior

management as the number one factor, the attitudes of trainees as number two, and, not far behind, the attitudes of trainers. Clark (2001b) in his study on motivation in eLearning, argues for a radical rethink of the structure, role and jobs within training departments. He suggests a new language of learning and learners needs to take the place of the current trainer-centred model. “eLearning” he says, “is not eTeaching” (Clark, 2001b).

### **Government policy and the New Zealand tertiary education sector**

Tertiary education reforms throughout the 1980s and 90s set the direction for the sector and created the context for the current study. The *Learning For Life: Education and Training beyond the Age of Fifteen* report (*Learning for Life*, 1989), focused on lifting poor participation rates in tertiary programmes by making it (tertiary education) accessible, student-centred, with nationally recognised standards, and integrated through “seamless” transitions from compulsory schooling to post-compulsory education and training. The Ministry of Education and the New Zealand Qualifications Authority (NZQA) were established as part of wider government sector reforms in 1989 and 1990 respectively. Issues of retention and completion were not yet on the horizon as the sector energetically embraced *Learning for Life* with its ‘bums on seats’ message.

Participation rates continued to climb throughout the sector, albeit unevenly, during the 1990s. University participation grew at a much slower rate than polytechnics and the decade saw upwards of 800 private training establishments (PTEs) registered by NZQA to offer tertiary provision and new funding mechanisms for on-job training. Three wananga (tertiary institutions that provide programmes with an emphasis on the application of knowledge regarding ahuatanga Maori (Maori tradition) according to tikanga Maori (Maori custom) were also established towards the end of this time. The major growth in the number of Maori students participating in tertiary education over the past decade has largely been as a result of increased participation in the three wananga with over a third of all Maori in tertiary education (38 percent) attending one of the three (NZCER, 2004). In 2002, Te Wananga o Aotearoa grew by over 73 percent and the other two wananga grew by 29 percent (NZCER, 2004). Wananga, as we have already seen, have no significant web use reported in courses.

By 2002 government decided the current level of growth was not sustainable and a new direction was called for. The Tertiary Education Strategy was released in May. The Strategy would “transform” the tertiary education system into one that was strategically focused, more connected, collaborative, supported national development goals, responded to the challenges of globalisation, technological change, and the knowledge society (*EXCELLENCE, RELEVANCE AND ACCESS*, 2002). This document also flagged the move to a more interventionist funding system driven by a Tertiary Education Commission (TEC), to be formed in January 2003 which would “steer” the new tertiary system towards a more collaborative model. TEC is responsible for allocating funding of approximately \$1.6 billion to public and private providers of tertiary education and training and building the capability and capacity of tertiary education and training to contribute to national economic and social goals.

### **Steering the system**

The principal instruments that the Commission uses to steer the system are charters and profiles which apply to all publicly-funded tertiary providers and industry training organisations (ITOs). It is through this mechanism that recipients of public funding must demonstrate their alignment with the Tertiary Education Strategy and Statement of Tertiary Education Priorities. A Charter describes the education provider or ITO’s mission and role in the tertiary system, whilst the Profile details how the Charter will be implemented. It specifies education and training activities, policies and performance targets.

“Profiles will be negotiated annually with the TEC and will provide the basis for monitoring organisational performance, ensuring accountability for use of public funds and meeting other statutory accountability requirements” (*EXCELLENCE, RELEVANCE AND ACCESS*, 2002). This instrument materially increases the ability of government to steer the system, “ensuring that capabilities are developed that are critical to national goals” (*EXCELLENCE, RELEVANCE AND ACCESS*, 2002). Further, tertiary providers and ITOs must undergo an “assessment of strategic relevance” (*EXCELLENCE, RELEVANCE AND ACCESS*, 2002) by which TEC determines their access to public funding or even to pursue particular initiatives. In order to gain a positive assessment, a provider must demonstrate that their activities and structures align, or advance, the TES and its STEP. Providers must clearly

demonstrate that the qualification for which funding is sought meets the required performance standard and targets for participation, retentions and completions. There is only one criterion regarding performance – that of completions, so to obtain an overall assessment of strategic relevance the qualification must achieve a rating of at least ‘strategic relevance’ on this criterion. To do this a qualification must:

“meet a minimum of 50 percent completions on all courses that make up the qualification under review, or has not met it on one or more of the courses that make up the qualification under review for the first time in 2004, but has provided compelling reasons that justify the performance and/or has strategies in place to improve performance” (Review of Private Training Establishment (PTE) Student Component Funded Provision, Assessment of Strategic Relevance 2005 Guidelines, 13 April, 2005). A range of options is available to the TEC when a provider’s profile is poorly aligned, including “not funding, approval and funding of part of a profile, and engaging in dialogue to achieve closer alignment with the TES and STEP” (*EXCELLENCE, RELEVANCE AND ACCESS*, 2002).

The Education Sector Review, (State Services Commissioner, 2005) undertaken by the State Services Commissioner, the Secretary to the Treasury, and the Chief Executive of the Department of the Prime Minister and Cabinet, recognises that a major shift in focus in the last 5 – 7 years has been from just the numbers participating in learning to a new emphasis on the quality and relevance of learning outcomes. In his report to cabinet on the performance and interrelationship of the three key agencies, TEC, the MoE and the New Zealand Qualifications Authority (NZQA), the Commissioner reinforces the centralised control aspect of TEC’s work which is to “provide the means by which the Government exercises leadership in the tertiary education sector to ensure more relevant, strategic and effective use of resources, and the Minister has significant powers to guide TEC’s work” (State Services Commissioner, 2005). The Review, released in June 2005, recommended a proportion of funding be tied to successful completions. In July 2005, providers received documentation from the TEC on how to prepare for the ASR which included the warning: “Tertiary Education Organisations (TEOs) must achieve course retention rates of 50% or the Tertiary Education Commission (TEC) may withdraw funding”

(TEC website, accessed August 2005). However, online and face-to-face delivery modes were not differentiated and face the same measure.

### **The Tertiary e-Learning Strategy**

Recently, government acknowledged that eLearning in the tertiary sector did need special attention and a number of initiatives, including the development of the eLearning portal, [www.elearn.govt.nz](http://www.elearn.govt.nz), aimed at lifting the sector's 'e' capability were launched. In March 2002 the report of the e-Learning Advisory Group, 'Highways and Pathways: Exploring New Zealand's e-Learning Opportunities' was launched. This report identified a number of constraints for the development of e-Learning including New Zealand's geographically diverse country, isolated communities, limited access to Internet, the cost of developing technical infrastructure, learner support systems and teaching resources. The competitive educational environment was also noted as a constraint, as were concerns about the validity and quality of online learning and shortage of expertise in e-Learning and web development. The Advisory Group also noted that participation rates in tertiary education in general and in e-Learning in particular, are lower for Maori and Pasifika peoples than for Pakeha. "Participation on its own is not a measure of success. As with any e-Learning development, strategies for increasing participation must focus on the quality of learning taking place and outcomes achieved" (E-Learning Advisory *Highways and Pathways: Exploring New Zealand's e-Learning Opportunities*, 2002). In 2004 the Tertiary e-Learning Strategy was published which envisages a "networked, flexible education system offering accessible, relevant, high quality learning opportunities to all New Zealanders" (*Interim Tertiary e-Learning Framework*, 2004). eLearning, it is suggested, will lead to "better quality teaching and improved learning outcomes through an innovative, learner-centred approach in which best practice is shared, and opportunities for collaboration are exploited" (*Interim Tertiary e-Learning Framework*, 2004). The report recognises that local practitioners are impeded by a lack of research into eLearning in New Zealand, particularly into eLearning pedagogy, eLearning and kaupapa Maori and eLearning cost models.

In August 2005, Associate Education Minister Steve Maharey launched the e-facilitator qualification at the Seafood ITO, saying: "...the methods of training

delivery are changing...e-learning has come in from the margins of education to be an integral part of one cohesive system.” He concluded by saying that eLearning is the “way of the future.”

## **Conclusion**

If eLearning is, indeed, to be the “way of the future,” there are many unresolved issues that need addressing:

- Despite the plethora of international research, a fraction of which has been highlighted here, into every aspect of online education and training, there is still a dearth of New Zealand studies. This lack of a local research base will increasingly hinder efforts to develop a uniquely New Zealand response to learner’s needs.
- Education and training models, including measures of performance, developed over time to serve a face-to-face, timetabled delivery mode are not entirely appropriate in an online environment
- Government, the tertiary education sector (private and public) and the workplace, need to work together to develop policies and practices that have a sound research base, fit local needs and meet the needs of the most important player in the mix – the eLearner.

This study is a very small part of work towards addressing the above concerns. The next chapter outlines how I went about the research project.

## Chapter Three – Method

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In this chapter I discuss the methodology chosen for the project, ethical considerations and how these were overcome, and the selection of participants. Methods used to collect the data are described, as are procedures used for data analysis. In the final section I address issues of reliability and validity.

### **The context**

In 2004, a report prepared for the company I work for, Change Training Ltd, showed that student completion rates on our online Public Sector Knowledge programme were, despite positive feedback about the programme generally, unacceptably poor. The company immediately took steps to address this problem and I indicated that I would be keen to undertake further research to provide some definitive data and insights into the complex issues surrounding retention and successful completions of students on the programme. Hence, this research project was born. In doing so, I was able to integrate a work-based research interest and need with my own personal interest in why students fail to complete the course, and with my professional development towards fulfilment of a thesis for a Master of Education.

The project intended to establish baseline data on student activity (or non-activity) online and identify a range of strategies for improving students' chances of achieving successful completion of the programme. These strategies would then be systematically implemented after which baseline data would again be taken. Each intervention would thus be tracked and the efficacy of the various strategies evaluated. This current work reports on the initial outcomes of the project – the establishment of baseline data and the identification of the range of strategies to be implemented. The implementation and evaluation stages will be carried out as part of my independent work and do not fall within the scope and capability of this project.

### **The Public Sector Knowledge online programme**

The PSK programme comprises 21 unit standards towards the NC in PS Services (Introduction) Level 3 and Level 4. The unit standards are delivered and assessed

fully online. Students interact with their online learning coach (OLC) and, to a much lesser extent, their assessor. The units are moderated by the Public Sector Training Organisation (PSTO). PSK an entry level qualification for people seeking a career in the public sector, or wishing to learn more about the way the public sector in New Zealand operates. The PSK qualification is also relevant in the wider public sector, particularly in those agencies and organisations that are providing services to the public on behalf of the Crown, and is an avenue for professional development for public servants. The majority of students participating in the programme are employed in the public service.

Change Training has a number of objectives and goals related to the PSK programme which are submitted to the TEC annually, and form part of the company's statement of objectives and statement of service performance. Retention and completion rates are two measures that have recently gained prominence with the introduction of the Student Component Performance Measure in 2005 (see Chapter 1 for a more in-depth explanation). This policy decision makes a percentage of funding contingent on satisfactory performance against a set of three indicators relating to learner outcomes, including successful course completions and course retentions. Change Training has set retention and completion rates for the PSK online programme in keeping with completion and retention rates achieved internationally for similar programmes.

### **The Research Framework**

To get answers to some of the questions troubling us about the poor student completion and retention rates, I decided after a deal of consideration, on a mix of research approaches. The kinds of questions I was asking, such as *who* was most likely to drop out, and *why* students dropped out, indicated a need for both quantitative and qualitative methods. My worldview, training and experience leads me to favour qualitative research methods over quantitative. However, quantitative research processes for example, in this case, examination of the activity database reports, would help establish a variety of benchmarks relating to student's actual online activity.

### **The challenge of the online environment**

A brief discussion of the underlying principles behind distance learning and online learning in particular, is necessary to understand the associated challenges to choosing an appropriate methodology for this project.

Student motivation has a powerful affect on attrition and completion rates, regardless of institutional setting. Motivators for adult distance students are often different from those of traditional students. Knowles (1980), in explaining the advantages of knowing the learner, believes that learner behaviour is influenced by a combination of the learner's needs plus the learner's situation and personal characteristics. Knowing these personal characteristics is an important aspect of planning distance learning courseware and strategies. More importantly, knowing the participants can help drive program planning and policy formation, factors that are important to participation and success in distance learning. Such factors also guide the researcher in deciding how to go about the research – what methods will produce the most useful data and source for analysis and interpretation.

The online environment by its very nature lends itself to quantitative analysis. Student activity online leaves an electronic 'footprint' that, until records are deleted, can be examined and analysed at length. The COLTS software platform that the PSK programme operates through, records an enormous variety of student online activity. For the purposes of this project only a portion of the data available was accessed via specially constructed reports. The wealth of quantitative data available for this project was too significant to ignore and simplified my methodological decision-making process.

### **Quantitative methods**

Quantitative research is a deductive process, where the researcher starts with the whole picture and seeks to understand the whole by examining the parts. Research questions in this paradigm focus on 'how often, how long, when, who?' Simpson (2003) makes the point that there are at least two ways in answering the 'who drops out' question. "One will be in quantitative terms – looking at measurable characteristics of withdrawing students. . . Another answer will be qualitative, looking at less measurable characteristics such as personality" (2003). According to Simpson

there are many difficulties inherent in using questionnaires to attain a picture of causes of student retention, namely that they do not necessarily allow clear conclusions to be drawn. Simpson gives the example of a questionnaire that indicated lack of time as a potent cause of dropout but it was not clear whether that was from courses being overloaded with content, students not having accurate estimates of study time required or that they were unable to prioritise their workload (Simpson, 2003). To ameliorate this factor, my methodology includes qualitative methods to probe what might appear from the questionnaire, to be apparent causes of student non-completion.

### **The questionnaire**

The questionnaire design that I chose was structured into 9 sections covering: employment status, confidence and ability with computers, barriers to learning online, technical issues, and online learning features that aided learning. The questionnaire used a variety of mechanisms including multichoice, ranking, and forced choice. Participants also had the opportunity to give responses to open-ended questions such as “What aspects of the course did you enjoy the most?” Despite Simpson’s (2003) reservations about the use of questionnaires I considered that the mechanism, although it would not lend itself to causal analysis as sufficient variability was not structured into the questionnaire, would provide useful information that could be followed up and explored in more depth during the focus groups and telephone interviews. It also helped triangulate the qualitative data provided by participants.

Since quantitative data alone was never going to give a sufficiently ‘rich’ picture of what really is going on for an online student learner, I needed to get behind their first response, that is, to the questionnaire, to know something of the underlying reasons for what was appearing on the surface as poor completion and retention data. Answers to the ‘why’ question were the ones that I considered would constitute a successful project and would provide us with the kinds of insights needed to act on. I did not want to fall into the trap of inferring from students’ responses to the questionnaire that there was little the organisation could do about student withdrawals. To provide this ‘rich data’ I chose research methodologies from the qualitative paradigm: focus group interviews and telephone interviews of individual participants. I was also mindful of a problem identified by Lewis and Orton (2000) with determining online student’

needs, concerns, and characteristics which was that students themselves may not have enough of an understanding about online education to determine which attributes are salient to them and what their preferences or barriers are. Qualitative research processes seek to build up a whole picture from a close examination of the parts and research questions in this paradigm focus on ‘why, what, how, and how come?’ Since the focus of this research was to understand as much as possible from the learner’s point of view what barriers, if any, they experience in attempting to complete a particular online course, qualitative processes were chosen that would enable the learner’s voice to be heard and thus provide the necessary rich description and deep understanding of the phenomena under investigation.

Ultimately, it is what the student *says* about *why* they did or did not complete that is of relevance. It was not the intention of this project to confront the learner with the evidence of their online behaviour to establish how closely it matched their statements *about* their behaviour, although as researcher I have commented on that and presented my own interpretation. In a qualitative paradigm the researcher works with the learner’s ‘reality’ and the learner’s perceptions, exploring, illuminating and interpreting these pieces of reality (Holliday, 2002). It is the researcher’s job to find out how the people they are researching understand *their* world (Delamont, 2002). This focus on participant’s individual meanings means that as a qualitative researcher I had to be prepared for and committed to the notion of multiple realities (Trembath, 2004). These multiple realities I suspected lay at the heart of the project; the focus groups and telephone interviews would enable me to probe the multiplicity of reasons for student attrition and explain or give me some insights into the perplexingly poor retention and completion rates on one particular online programme – Public Sector Knowledge.

### **The qualitative sample**

Participants self-selected for the qualitative aspects of the research design – the focus groups and telephone interviews. The option to participate further was offered at the conclusion of the questionnaire on the submission page. Questionnaire submissions were automatically sorted according to whether the student had positively responded to the invitation to further participate. Names, geographic details and gender were available to the researcher in order to contact the participants. Wellington-based

positive responses went into a pool from which focus group participants would be drawn; non-Wellington-based responses went into the pool to be telephone interviewed. A selection was then made to provide (as close as possible) equal numbers of female and male participants in each group. Where an excess of participants occurred, selection would then be according to timeliness of response (first in, first served).

### **Ethical Issues**

The proposal for this project has been accepted by the Massey University Human Ethics Committee (HEC:WGTN 05/09). I was aware at the outset of the research that ethical aspects of the project would need attention. Apart from the standard ethical issues and dilemmas almost any researcher faces in the social sciences; informed consent, confidentiality, harm, risk, conflict of interests and so on, I soon came to realise that the project presented some additional ethical issues for me to work through. The online nature of the project was a factor that required careful consideration at each step to ensure the ethical considerations were appropriately and satisfactorily addressed. I shall deal with these in turn, as well as how I dealt with the more standard ethical considerations.

*Informed consent.* All parties, that is, my colleagues at Change Training and students, were informed fully about the project. The initial invitation (Appendix A) to participate contained information about the project and information on how to get additional information from Change Training's research webpage, or by contacting the researcher directly via email. Although it was not appropriate to get each participant's *written* consent to the project, by virtue of the online nature of the research, participants understood that returning the online questionnaire implied consent. If participants changed their mind, the questionnaire itself also had a check where they could disengage from the project.

*Confidentiality.* Confidentiality of personal data of participants was at risk because when respondents submitted the completed questionnaire online, it was unavoidable that their email identifier would be part of that submission. To address this, and to establish anonymity of respondents, survey responses were captured into a database

designated specifically for the purpose. I, as researcher or as Change Training staff member, could not access that database. A Change Training IT staff member then ran a 'script' over the database that matched the student with their National Student Index (NSI) number, stripped off the email identifier and left each respondent with their unique identifier (their NSI number), their geographic region and gender only. Respondents who had indicated they would be prepared to be contacted to participate further in the project were also identified by a marker. IT staff who, because of their job, have access to the databases, have signed confidentiality clauses in their employment contracts, in addition to the confidentiality agreement they signed specifically for this project.

*Conflict of interest.* I faced a potential ethical conflict in that my employer was supporting the research (paying for my time, allowing access to databases, providing IT staff who performed crucial tasks in the operation of the research) and was a potential benefactor of research results and as such was potentially a source of pressure – to expose data, to hide data and so on. I needed to introduce myself to students and potential participants and to explain how I came to have their name as a student on the programme. I also did not want students to feel that their details had been, or would be, divulged to a third party. This was resolved in a detailed letter of explanation and invitation sent to all potential participants (*Appendix One*). The potential conflict in my role as researcher and role as Change Training staff member was addressed in a letter to my employer seeking permission as a researcher to undertake the research, and have access to the Change Training databases. In this way, I sought to clearly separate the roles and identify and be upfront about the potential source of conflict. I have not experienced any pressure to develop the research in any particular direction; neither did my employer have access to the research in progress. My employer was also made aware, and gave permission for the identity of the company, Change Training, to be published (*Appendix Two*).

*Power imbalance.* Because the PSK programme was one where students could gain a qualification, the concept of voluntary participation was particularly relevant in the project. I had to ensure participants did not feel that their decision to participate or not on the project, would in any way prejudice their gaining of the qualification. This aspect of voluntary participation was further complicated by the fact that the request

to participate was coming from the researcher who was also a senior staff member of the organisation who granted the qualification. This aspect was specifically addressed in the invitation to participate (*Appendix One*).

*Participant results.* Participants indicated via the questionnaire, if they wished to have results emailed to them, and a summary of the findings was sent to interested participants. Results were also made available via a link on the Change Training website. Participants who had undertaken either telephone interviews or focus group meetings were likewise informed they would receive a summary of the findings if they so wished.

*Security of data.* The original database of students' responses would be destroyed at the conclusion of the project. No hardcopy was made of the data and no identifiable information on the participants was given to third parties. Information relating to the focus groups and telephone interviews were stored in a lockable filing cabinet in the researcher's office. The assistant who helped with focus group and telephone interviews was a Change Training staff member who had signed the staff confidentiality agreement (*Appendix Three*).

The data is stored within the organisation, Change Training, a major stakeholder in the outcomes of this research. Consent forms (electronic) are stored separately from the data, on a separate server. Electronic data is stored through a secure database linked directly from the website, and available only to those with access rights. Notes from telephone interviews are filed in a locked cabinet in the researcher's office.

### **Researcher expectations**

I embarked on the research project with a number of expectations about what the databases on student online learning activity would reveal. For instance, Change Training's online learning coaches had already identified from their own contacts with students, that the first few weeks of the online programme were critical to successful completion. Hence, I expected to find that many students floundered in the initial period after starting their online programme and that without appropriate intervention at this critical time many of them would just give up. I expected, too, that

hitting the first summative assessment in the course materials would constitute a critical incident for significant numbers of participants. This, I thought would show up as a drop in online activity for many, and even a cessation in activity from others. Problematic life events have often been cited as a reason why students might drop out of a distance education programme (Kemp, 2002 as cited in Simpson, 2003, p21), and these factors have been reported to our own OLCs. However, I started the project somewhat skeptical of this catchall reason. It seemed a little too convenient. Surely it is the exceptional adult learner who does not experience problematic life events during the course of their study programme – but not all drop out because of them. Simpson (2003) thinks that a major factor in the success or otherwise of a student is their level of ‘resilience’ enabling them to overcome life events. My hope was to probe the issue more deeply during the focus group meetings and telephone interviews.

Perhaps the most significant expectation that I was particularly interested in elucidating in this project was the idea that work commitments on the part of the online student was a major source of frustration for them, hence a major reason for attrition. Change Training’s OLCs frequently reported anecdotal evidence from participants that work commitments were a problem for them. Again, the focus groups and telephone interviews would provide the means to probe this area and dig deeper than their first level of response.

In a real sense, these expectations are an integral part of my research thesis and design – they helped to inform my choice of research methodology and the questions asked.

## **Procedure**

The first task was to invite via an automated invitation to all students ( $n = 170$ ) enrolled with Change Training on an online learning programme – Public Sector Knowledge, to participate in the research project and complete a web-based questionnaire (*Appendix Eight*). This would obtain quantitative data on online learners’ individual learning experiences. The questionnaire was distributed online through COLTS software, from the enrolment page on the Change Training website.

Participant's personal details were not included in the survey, nor stored on any web browser cookies. Questionnaire responses on submission went into a specially created survey server.

At the same time as the questionnaire was sent out, baseline data was established from the Change Training databases. I should point out at this stage, that in this project, it was not my intention to attempt to match statements from individual respondents with their specific activity online as identifiable in an examination of database reports, but rather to use the reports to identify patterns and trends in online activity. Respondents to the questionnaire who indicated they were willing to be contacted to participate in either focus groups or telephone interviews (if out of Wellington) formed the pool of potential further participants. Focus groups and telephone interviews were then undertaken over a period of four weeks. These enabled me to gather qualitative data on participant's online learning management experiences, problems, critical incidents and challenges faced, and we (participants and researcher) were able to examine in more depth issues arising from the questionnaire.

Following an analysis of the questionnaire, focus groups and interviews, a number of strategies were developed with the intention of implementing these. Simpson makes an important point when he states that "What is clear is that no retention strategy is likely to fit all students and all circumstances at all times" (2003).

Finally, the outcomes of those interventions were analysed and evaluated. The implementation and evaluation stages were carried out as part of the researcher's independent work and did not fall within the scope and capability of this project. For reasons of sampling and size a descriptive analysis approach was chosen.

### **The participants**

Potential participants were identified by virtue of their enrolment on the online Public Sector Knowledge programme. Initially, all students enrolled with Change Training were invited to participate. Those who returned the online survey *and* who indicated that they were willing to participate further received an email requesting them to join a focus group, if they were Wellington-based, or a telephone interview if they were not.

**Sampling and selecting participants**

Initial selection was by virtue of a student’s enrolment on the Change Training PSK online programme. Questionnaires were sent to all participants on the Change Training online PSK programme (*n* = 170). The following table gives some baseline data about that group.

Gender	Female	Male				
	111	59				
	62.29%	34.70%				
Age	<20	20-29	30-39	40-49	50-59	>60
	9	51	53	37	17	3
	5.3%	30%	31.17%	21.76%	10%	1.76%
Disability	Yes	No				
	3	167				
	1.76%	98.24%				
Ethnicity	NZ European/ Pakeha	Maori	Pacific Island	Chinese	Indian	Other
	127	43	33	6	13	28
	74.70%	25.29%	19.41%	3.53%	7.64%	16.47%

**The sample**

A total of 77 respondents submitted completed surveys, of these, more females (proportionally) than males responded, with 59 females making up 76.6 % of the sample. The 18 males made up 23.4 % of the sample. Average age of respondents was 38. Youngest was 21 and oldest 61. Respondents closely match the average age and spread of the total population. At the time of completing the survey 93.5 % were in paid employment. One female (1.7 %), was unemployed and four males (22.2 %). Forty-four (74.5 %) of the females were in non-management or ‘other’ positions, whereas eight males (44.4 %) identified themselves as such. Two females and four males did not respond to this question. Out of the nineteen respondents in management, thirteen females (68.4 %) and five males (27.7%) were in middle management positions, and just one (male) respondent and no females identified as a senior manager.

### **The total population and the sample**

At the time the survey was conducted, the total population of participants on the Public Sector Knowledge (PSK) online programme was 170, with females dominating: 111 (62.3%) and males just less than half that at 59 (34.7%). The average age of participants on the programme is 36, with an age range from the youngest at 17 years to the oldest at 66 years. Although it is not possible to say exactly how many of the total population are employed or what level in the organisation individuals hold, as this information is not required at enrolment; since active recruitment to the programme is via public sector workplaces, almost all participants could be expected to be working public servants. However, a small number of participants come into the programme through direct enrolment from the Change Training website.

The invitation to complete the online survey was emailed to all 170 PSK participants. Thirty-six emails were automatically returned (without being read) either because the participant was no longer at that email address or because the particular organisation's email policy did not permit the email with its link to the survey site, to pass through their 'firewall'. A second emailed invitation was sent after five days (excluding those email addresses that had previously failed). By the close of the survey period (prospective participants had a total of 21 days to submit a completed survey), I had received 77 survey responses – a response rate of 45.3%.

Of the 77 survey respondents, 25 (32.5%) indicated at the time they completed the survey, that they would be prepared to participate in either a focus group or a telephone interview. I was only able to make contact with 18 participants, eight of them Wellington-based, who were invited to a focus group. Six attended a focus group and a further five participants were interviewed by telephone, making a total of 11 respondents. Given these numbers, it was not possible to select either group to include an equal number of males and females. Further research projects could select participants on other categories also, given sufficient numbers. Ones that come to mind, and would be relevant in Aotearoa New Zealand could be: ethnicity, age, employment status, location and so on.

The focus group was held after work hours, at the Change Training central city premises and lasted between one and two hours. With the small group size I felt that I

would be able to take sufficiently detailed notes not to necessitate also recording the responses. Notes were taken by the researcher and an assistant, a staff member who had previously signed the staff confidentiality agreement (*Appendix Three*). Responses were recorded on a structured response form (*Appendix Seven*). Participant telephone interviews were conducted over the same period and at a time convenient to the participant. If employed and they indicated they wanted to be contacted during work hours, they were asked to get their employer's permission. My intention was to replicate in the telephone interviews, the focus group questions as closely as possible. Responses were likewise recorded on the structured response form. Each interview averaged between 15 and 30 minutes.

### **The data and data collection**

The quantitative data for this project has been generated from the students themselves in their responses to the online questionnaire. Qualitative data was generated by participants in discussions in focus groups and during telephone interviews and captured on structured response forms.

### **Data analysis**

Data analysis is the search for patterns within the data (Neuman, 2000). Quantitative data analysis deals with information expressed as numbers as opposed to words. But data analysis is more than number crunching and is an activity that permeates all stages of a study. Grosshans and Chelimsky (1992) in their report to the US General Accounting Office, state that successful data analysis, whether quantitative or qualitative, requires (1) understanding a variety of data analysis methods, (2) planning data analysis early in a project and making revisions in the plan as the work develops; (3) understanding which methods will best answer the study questions posed, given the data that have been collected; and (4) once the analysis is finished, recognising how weaknesses in the data or the analysis affect the conclusions that can properly be drawn. They acknowledge that the study questions govern the overall analysis but that the form and quality of the data determines what analyses can be performed and what can be inferred from them (Grosshans & Chelimsky, 1992).

Data analysis commenced as soon as the first survey was returned. When the time period given to participants for the return of the questionnaire, two weeks, had expired, critical incidents that had previously been identified at the individual level were then compared with others to see if trends or patterns existed in the group as a whole, or within sections of the group. In this way critical success points were identified.

The first level of analysis entailed descriptive statistics such as the mean and median, a measure of central tendency, correlation, and the standard deviation, a measure of spread of data drawn from the computer generated databases. This statistical analysis enabled me to count, manipulate, summarise, and interpret the data, in other words, identify trends and patterns in participant’s online activity – when they went online, how long for, what type of activity did they engage in and so on. Levels of significance were established for appropriate data. Univariant factors were analysed using the non-parametric Wilcox test and multivariant data analysed using logistic regression.

**Incompleteness of data**

I had expected that in the online survey, of those who submitted their survey, some respondents would not answer certain questionnaire items, and this was indeed the case. This can be seen where in the data tables the total responses in a group do not add to the total number of respondents, as in the shaded cells below:

		Gender		Age			Position in organisation		Dependent children		
	Self assessed skill level	F	M	<30	31-40	>41	Management	Non Mgt/ Other	Yes	No	
Total possible respondents = 77		59	18	23	22	31	19	52	32	43	Totals

Grosshans & Chelimsky (1992) warn that almost inevitably, the data will be incomplete in several respects, and data analysis must contend with that eventuality. Incompleteness in the data affects analysis in a variety of ways. I sent the

questionnaire to 170 Change Training students and 77 – 45.3 percent returned the survey, so the data is also incomplete in that it does not contain the views of all students.

## **Rigour**

Is my work believable, accurate, does it make sense, and is it useful to people beyond those who participated in it? I will attempt to address these questions and demonstrate the ‘rigour’ of my research methodology.

## **Triangulation**

In my research, the literature, the quantitative data and the qualitative data are the three ‘legs’ of the stool. The literature supports (or not) what the qualitative data is saying, which in turn is supported (or otherwise) by what the quantitative data shows. This research methodology allowed data triangulation and enhanced the overall rigour of the research process.

## **Limitations and challenges**

The project faced a number of significant limitations and challenges from the start. Firstly, the likelihood of capturing students who had already dropped out of the programme and getting them to return a questionnaire was always going to be slim. Unfortunately, of course, it is this very group that would yield the most rich and hence useful material. The more data that can be used in the analysis, the more accurate the predictions (of likely success) will be (Simpson, 2003). To increase my chances of questionnaire return, an invitation containing the links to the survey was emailed to the student completely independent of their study programme. The student did not have to be ‘in’ the programme, that is, currently active on the programme in order to complete the survey.

A second limitation of the research was one of timeliness in that the data could only be collected when it was perhaps already getting too late to intervene to support the potentially failing students. This could make it difficult to interpret the results of the efficacy of any interventions we implemented – results would need to be checked

against the student's time on the programme to see what influence, if any, which had. We also accepted that although many students might not personally benefit from the interventions, but that later students or, indeed, students on other online programmes might. This later point gives rise to a further possible limitation which applies generally to qualitative research, and this is the extent to which findings are transferable to, or fitting for, other situations. This research was carried out with a particular group of online students in mind – a detailed account of the project and sufficient detailed information about the participants, selection methods, context, and data generation and analysis methods has been provided. Transferability requires the production of 'thick description' which can serve as a database for others to make a case transferable to another case (Wang et al., 2003). The reader should be able to decide how far and to whom the findings may be generalised.

## **Conclusion**

In this chapter I have discussed the methodological thinking and processes used in this project. I have outlined my reasons for choosing a mixed methodological approach to provide the hard and soft data I required. The research participants have been introduced along with the associated ethical considerations, limitations and challenges faced during this project. Data was gathered from selected reports from databases and from surveys, interviews and focus groups. Structured response forms were used to capture focus group and interview data. These provided texts for analysis through coding and categorisation. Explanations and possible interventions arose after examination of the data. The last section discussed the nature of the data and how it was analysed. Aspects of rigour of the work and criteria for soundness have also been addressed in this chapter. In the next chapter, data that resulted from those methods will be discussed.

## Chapter Four – Results and analysis

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This chapter is in three sections: the first section answers questions about the respondents and the total population from whom the respondents are drawn. A brief statement is made about the statistical treatment; recognising that the topic is handled in depth in the previous chapter. The second section presents the survey results and explains and explores the data. Data has been analysed around four key questions:

1. What do the data tell me about the confidence of this group in using computers (for online learning)?
2. What do the data tell me about what motivates (keeps someone on a programme) someone to learn online? Keeps them studying online
3. What do the data tell me about what impedes someone from learning online? Stops them studying online; causing them to dropout?
4. What do the data tell me about what makes for effective online course design for this group?

The final section presents conclusions and leads the reader into the discussion chapter that follows.

### Statistical treatment

Quantitative data was analysed using a variety of descriptive statistical tools. Chief of these was standard deviation, standard error and the mean. The small number of focus group and telephone interviews made computer-based analysis unnecessary, and qualitative data from the focus group and telephone interviews (a total of 11 participants) was included with results from the quantitative survey. Levels of significance were established for appropriate data. Univariant factors were analysed using the non-parametric Wilcoxon test and multivariant data analysed using logistic regression.

### Results

#### ***1. What do the data tell me about the confidence of this group in using computers?***

My first research question centres on what the data tells me about the *confidence* of this group in using computers, especially for the types of tasks used in the PSK

programme. Respondents were asked to rate their skills by comparing themselves against a known group, such as their colleagues, at a range of tasks related to learning online: handling emails, using the Internet to search for information, using a computer to learn online and their enjoyment at learning online. Skills of the 'known' group were regarded as average, so respondents could rate themselves as better than their colleagues (above average), about the same as their colleagues (average), or worse (below average). This method of self-comparison was chosen as it was not the intention of the survey to actually assess respondents' skills, and I assumed that as the majority of respondents were public servants, they would have a reasonably well-developed awareness of their skill levels in this area. Responses were analysed (see Table 1. below) in terms of gender, age, position in organisation and whether the respondent had dependent children living with them. Respondents rate themselves as above average in a range of computing tasks and they are equally confident about their ability to use computers to learn online.

Table 1: Confidence and skill in using computers

		Gender		Age			Position in organisation		Dependent children		
	Self assessed skill level	F	M	<30	31-40	>41	Management	Non Mgt/ Other	Yes	No	
Total possible respondents = 77		59	18	23	22	31	19	52	32	43	Totals
Skill at handling emails & attachments	Above average	83.0% (49)	83.3 % (15)	65.2% (15)	54.5% (12)	67.7% (21)	73.7% (14)	90.4% (47)	84.4% (27)	81.4% (35)	83.1% (64)
	Average	1.7% (1)	11.1% (2)	(0)	9.0% (2)	3.2% (1)	5.3% (1)	(0)	9.4% (3)	(0)	3.9% (3)
	Below average	11.9% (7)	5.5% (1)	17.4% (4)	9.0% (2)	6.4% (2)	21.0% (4)	1.9% (4)	3.1% (1)	16.3% (7)	10.4% (8)
Respondents		57	18	19	16	24	19	51	31	42	
Skill at using the WWW to search for information	Above average	74.6% (44)	72.2% (13)	78.2% (18)	81.8% (18)	64.5% (20)	58.0% (11)	76.9% (40)	75.0% (24)	72.1% (31)	74.0% (57)
	Average	11.9% (7)	22.2% (4)	8.7% (2)	4.5% (1)	26.0% (8)	21.0% (4)	11.5% (6)	12.5% (4)	16.3% (7)	14.3% (11)
	Below average	10.2% (6)	5.5% (1)	8.7% (2)	9.0% (2)	9.7% (3)	21.0% (4)	7.7% (4)	11.1% (3)	9.3% (4)	9.1% (7)
Respondents		57	18	22	21	31	19	50	31	42	
Skill at downloading software to view certain webpages	Above average	59.3% (35)	61.1% (11)	69.6% (16)	63.6% (14)	51.6% (16)	21.0% (4)	69.2% (36)	65.6% (21)	58.1% (25)	59.7% (46)
	Average	23.7% (14)	22.2% (4)	17.4% (4)	13.6% (3)	35.4% (11)	26.3% (5)	19.2% (10)	18.7% (6)	27.9% (12)	23.4% (18)
	Below average	15.2% (9)	16.7% (3)	13.0% (3)	18.2% (4)	13.0% (4)	21.0% (4)	9.6% (5)	15.6% (5)	11.6% (5)	15.6% (12)
Respondents		58	18	23	21	31	13	51	32	42	
Confidence at using a computer to learn online	Above average	89.8% (53)	77.7% (14)	91.3% (21)	90.9% (20)	81.0% (25)	73.7% (14)	90.4% (47)	84.4% (27)	88.4% (38)	87.0% (67)
	Neutral	10.2% (6)	22.2% (4)	8.7% (2)	9.0% (2)	19.3% (6)	26.3% (5)	9.6% (5)	15.6% (5)	11.6% (5)	12.9% (10)
	Below average	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Respondents		59	18	23	22	31	19	52	32	43	

***Does gender make a difference to perceptions of skill, confidence and enjoyment of learning online?***

Very little difference is evident in the data between the percentage of males and females who perceive their skill level at handling emails to be better than average - 83.0 % of the females and 83.3 % of males. However, more than twice the numbers of females as males regarded their skills as *below* average, 11.9 % compared with just 5.5 % of the males. A similar pattern emerged in the gender differences in skill perceptions of using the World Wide Web. Females felt more confident about using a computer to learn online (89.8% rated their confidence as above average, compared with 77.7% of males).

***What difference does age play?***

In this survey, age of respondent had little effect on perceptions of skill or confidence in learning online. All age groups scored themselves highly on skill and confidence.

***Position in organisation***

The higher a respondent was in their organisation, the more likely they were to have a lower regard for their skills at handling emails and at using the Internet for online learning. However, the comparatively small numbers of respondents in management positions per se, and especially senior management, means that the margin of error – an estimation of the extent to which a poll's reported percentages would vary if the same poll were taken multiple times, is high, and results must be interpreted with that in mind.

When it came to feeling confident about learning online, there was little difference between the two groups, with both groups reporting high levels of confidence at using a computer to learn online. Managers did demonstrate more of a tendency than non-managers, to feel neutral about learning online.

***Does having dependent children living with you make a difference?***

Yes, but to attitudes and confidence, not to perceived skill levels. 84.4 % of those with dependent children rated themselves as confident at learning online as opposed to 62.8 % of those without dependent children.

Overall, the group of respondents can be characterised as highly computer literate and confident about their ability to use computers to learn online. Whatever barriers to learning online existed, lack of skills and confidence was not one of them. This finding was supported by the fact that no focus group member or telephone interviewee mentioned (lack of) computing ability as an issue in learning online.

## ***2. What do the data tell me about what motivates someone to learn and keep on studying online?***

My second research question focused on what the data tells me about *what motivates people* on the PSK programme; i.e., factors that might influence their decisions to undertake the programme in the first instance, and what keeps them on the programme. Respondents were surveyed about their motivation as a learner and their reasons for doing the online programme as well as their enjoyment of the online learning process.

In each case respondents were presented with a statement and asked whether they strongly agreed, agreed, neither agreed nor disagreed (neutral), disagreed or strongly disagreed with the statement. Responses in the 'strongly agree' and 'agree' categories have been aggregated and presented in the 'Agree' line, and 'strongly disagree' and 'disagree' have been aggregated and presented in the 'Disagree' line.

Survey data is analysed according to three variables: respondent's gender, age and position in organisation.

Table 2: Motivation factors

		Gender		Age			Position in organisation		Totals
	Self assessed factors	F	M	<30	31-40	>41	Management	Non-mgt Other	
Total possible respondents = 77		59	18	23	22	31	19	52	Totals
I am a self-motivated learner	Agree	67.8% (40)	83.3 % (15)	65.2% (15)	81.8% (18)	67.7% (21)	57.8% (11)	75.0% (39)	71.4% (55)
	Neutral	16.9% (10)	5.5% (1)	21.7% (5)	4.5% (1)	16.1% (5)	15.7% (3)	28% (7)	14.3% (11)
	Disagree	15.2% (9)	11.1% (2)	13.0% (3)	9.9% (2)	16.1% (5)	26.3% (5)	11.5% (6)	14.3% (11)
Respondents		59	18	23	21	31	19	52	
I prefer external factors to motivate me	Agree	45.7% (27)	61.1% (11)	56.5% (13)	50.0% (11)	45.2% (14)	52.6% (10)	50.0% (26)	49.3% (38)
	Neutral	38.9% (23)	22.2% (4)	30.4% (7)	22.7% (5)	45.2% (14)	21.0% (7)	34.6% (18)	35.1% (27)
	Disagree	15.2% (9)	11.1% (2)	13.0% (3)	22.7% (5)	9.6% (3)	10.5% (2)	13.4% (7)	14.3% (11)
Respondents		59	17	23	21	31	19	51	
Main reason for doing PSK courses	Job requirement	8.4% (5)	16.6% (3)	17.4% (4)	13.6% (3)	3.2% (1)	10.5% (2)	11.5% (6)	10.4% (8)
	Improve qualifications	11.8% (7)	5.5% (1)	8.7% (2)	13.6% (3)	9.7% (3)	5.2% (1)	13.5% (7)	10.4% (8)
	Improve job skills/ knowledge	62.7% (37)	61.1% (11)	65.2% (15)	54.5% (12)	64.5% (20)	68.5% (13)	61.5% (32)	62.3% (48)
	Other	16.9% (10)	16.7% (3)	8.7% (2)	13.6% (3)	19.3% (6)	15.8% (3)	13.5% (7)	16.9% (13)
Respondents		59	18	23	21	30	19	50	
I enjoy learning online	Agree	62.7% (37)	61.1% (11)	60.8% (14)	54.5% (12)	71.0% (22)	57.9% (11)	59.6% (31)	62.3% (48)
	Neutral	30.5% (18)	30.9% (5)	26.1% (6)	31.9% (7)	29.0% (9)	31.6% (6)	32.7% (17)	29.9% (23)
	Disagree	6.7% (4)	11.1% (2)	13.0% (3)	13.6% (3)	(0)	10.5% (2)	7.7% (4)	7.8% (6)
Respondents		59	18	23	22	31	19	52	

The majority of respondents (71.4%) regard themselves as self-motivated learners. There is an apparent contradiction with almost half the respondents also reporting

they prefer external factors to motivate them. Possible explanations for the apparent contradiction are examined in the following chapter.

When asked to choose their main reason for doing the PSK online programme, few cited job requirement (10.4%) or even to improve their qualifications (10.4%). The major reason chosen was to improve job skills and/or knowledge. The lack of motivation (internal or external) to gain the actual qualification (the Certificate in Public Sector Knowledge) must be seen as a major contributor to the retention issue on the programme. 'Other' reasons given (for undertaking the programme) included; "New to New Zealand and want to learn", "Interest in how things work", "Interest/relates to department", "To encourage my staff to learn more about Government", and "It's interesting, and to begin with to get a new and different job".

Although the majority of survey respondents said they enjoyed learning online (62.3%), of significance to the aims of this current study, is the high numbers who felt neutral about learning online (29.8%). How this might impact on retention and completion rates is discussed in the following chapter.

### ***The impact of gender on motivation factors***

Although males identified more strongly than females in this survey as being self-motivated learners (83.3%), given the sample size, this was not a statistically significant finding ( $p=0.07$ ), but could indicate an interesting avenue for further research. Male responses highlighted an apparent contradiction, with 61.1% also agreeing that they preferred external factors to motivate them.

### ***Reasons for doing the programme***

There was very little gender difference in the main reason respondents gave for doing the PSK online programme, with both citing 'Improve job skills and knowledge' as the key reason. Factors that might be expected to have a significant positive impact on retention and completion of the programme such as 'Improve qualifications' and 'requirement of the job', scored poorly with both groups with just 5.5% of males choosing qualifications as a key reason and 11.8% of females. Males were also twice as likely as females to state their main reason for doing the programme because it was a 'requirement of the job.'

### ***Enjoyment of online learning***

The data showed that there was very little gender difference in answer to the question of whether respondents enjoyed learning online. Both groups were positive (62.7% of females enjoying learning online and 61.1% of males).

### ***The impact of age and position in organisation on motivation factors***

A respondent's age did not significantly influence responses in any area except main reason for doing the PSK qualification. Just one respondent in the 41 years and older category (3.2%), said it was a 'job requirement'. Most respondents in this age group stated they were doing the programme to improve their job skills and knowledge (64.5%). On the face of it, this may seem surprising given the particular age group, older workers, who could reasonably be considered knowledgeable and experienced, but could be explained by factors such as the makeup and increasing mobility of today's workforce. Older respondents could just as easily be new and unfamiliar to a position and its requirements as a younger respondent. Age did have a positive impact on whether a respondent enjoyed learning online – the oldest age group reported the highest levels of enjoyment and all respondents in the over 41 age group said they did enjoy learning online.

### ***Interview results<sup>1</sup>***

Focus group members and telephone interviewees were informed that in the online survey (that they had participated in), almost half of the respondents agreed with the statement: I prefer to have external factors to motivate me. Interviewees were asked what sorts of external factors motivated them and what was their measure of success. Deadlines were mentioned by three interviewees as the key external motivating factor. There was general agreement that the contact and support from the online coaches was a positive influence and a motivator to keep going. The speed of the assessor in returning work also had an influence: when there was a quick turnaround time interviewees felt encouraged and valued, but this was reversed if they had to wait more than the usual two or three days for assignments to be marked. The quality of the assessor feedback was also commented on as a major motivator to keep going with the assessments. Interviewees also felt that the workplace had some

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<sup>1</sup> Where a number of interviewees express the same or very similar views, the number is inserted in brackets after the most typical comment.

responsibility in providing the right incentives: *“Things need to be tied to the job; the boss needs to be in behind it. Link the programme to performance evaluation – some sort of monetary incentive (x2). This (monetary incentive) is more important to me than the online coaching.”* Other comments included: *“I have a law degree, I wanted to see the practical application of this and found it very interesting to fill in a lot of gaps”*; and *“I think external factors would be very important to me – but I don’t have any operating in this case”*; Two interviewees said they didn’t need external factors to motivate them. Regarding the measure of success, three interviewees cited getting through the material and the quizzes, as important to them. Another stated: *“Well, I didn’t want or need the unit standards so for me, success was learning something new, particularly if I could apply it to my job” (x2)”*; A ‘new’ New Zealander said *“it was great to have something like this. I’m working in a governmental area so it is important to get up to speed. Reading through the material was my measure of success.”*

**3. *What do the data tell me about what impedes someone from learning online?  
Stops them studying online; causing them to dropout?***

The third focusing question relates to what do the data tell me about what factors might actively work against someone studying online; possibly even causing them to dropout. Respondents were presented with a range of options and asked to nominate what made it hard for them to study online. The survey also asked related questions about factors that may have an impact on retention, such as whether respondents had Internet access at home, whether they preferred classroom-based learning and whether they were completing other courses at the same time as doing the PSK programme.

Data was analysed with reference to gender, age, position in organisation and whether respondents had dependent children living with them.

Table 3: Retention factors

		Gender		Age			Position in organisation		Dependent children		
		F	M	<30	31-40	>41	Management	Non-mgt	Yes	No	
Total possible respondents = 77		59	18	23	22	31	19	52	32	43	Totals
Which factors make it hard to study online? <i>(respondents could choose more than one factor)</i>	Time	93.2% (55)	88.9 % (16)	95.6% (22)	95.5% (21)	87.1% (27)	100% (19)	92.3% (48)	90.6% (29)	93.0% (40)	92.2% (71)
	Family responsibilities *	20.3% (12)	16.7% (3)	17.3% (4)	22.7% (5)	19.3% (6)	5.2% (1)	23.1% (12)	37.5% (12)	6.9% (3)	19.5% (15)
	Access to a computer	6.8% (4)	(0)	8.7% (2)	4.5% (1)	(0)	5.2% (1)	5.7% (3)	(0)	6.9% (3)	5.2% (4)
	Computer problems	3.4% (2)	11.1% (2)	4.3% (1)	4.5% (1)	6.4% (2)	5.2% (1)	3.8% (2)	6.2% (2)	4.6% (2)	5.2% (4)
	Lack of employer support	3.4% (2)	(0)	(0)	(0)	3.2% (1)	(0)	3.8% (2)	3.1% (1)	(0)	2.6% (2)
	Childcare	5.1% (3)	5.5% (1)	4.3% (1)	4.5% (1)	6.4% (2)	5.2% (1)	5.7% (3)	12.5% (4)	(0)	5.2% (4)
Internet access at home?	Yes	79.7% (47)	100% (18)	78.3% (18)	86.4% (19)	87.1% (27)	89.5% (17)	80.8% (42)	93.7% (30)	79.1% (34)	84.4% (65)
	No	20.3% (12)	(0)	21.7% (5)	13.6% (3)	9.7% (3)	10.5% (2)	19.2% (10)	6.2% (2)	20.9% (9)	15.6% (12)
Respondents		59	18	23	22	30	19	52			
Completing other courses?	Yes	25.4% (15)	38.9% (7)	39.1% (9)	27.3% (6)	22.6% (7)	21.0% (4)	29.0% (15)	28.1% (9)	27.9% (12)	28.6% (22)
	No	69.4% (41)	61.1% (11)	60.8% (14)	63.6% (14)	71.0% (22)	79.0% (15)	71.0% (37)	62.5% (20)	69.8% (30)	67.5% (52)
Respondents		56	18	23	20	29	19	52	29	42	

\*(not incl childcare)

Finding time to study online was a difficulty for almost all respondents (92.2%) – regardless of gender, age, position in organisation or whether the respondent had dependent children living with them. In fact, having dependent children made you slightly less likely to cite time as a difficulty factor. Access to a computer, computer problems and childcare hardly registered at just 5.2% each. Childcare was only a factor making it difficult to study online for just four (12.5%) of those with dependent children living with them (41.5% of total respondents). The four survey respondents

comprise two males (married, or living with partner and children), and two females (both single parents).

### *Interview results*

Focus group and telephone interviewees almost unanimously agreed that time was an issue in completing the programme: (just one member saying that she did have time at work, although she qualified this by saying that it needed to be “*more regular*”). Other work taking priority over the course was cited as a major problem, with comments such as: “*Even though work time is allocated, other things need to be prioritised ahead of it*”(x6); “*There is an issue of the level of urgency you feel to do this, as opposed to doing other things at work that need your attention straight away – it (the PSK online course) can always wait*”; “*You have to be very disciplined to set aside time at work – and have cooperative colleagues. I’m not motivated enough to set aside time at home*”(x2). One interviewee doing the PSK course described what happened when she introduced the online course to her team: “*I’m team leader for about 18 people – a lot are new young grads. The PSK course seemed like a really great idea for the team. But we get very busy and under a great deal of pressure and often behind. I knew that time (to do the course) would be an issue and suggested that on Tuesday afternoons we all spend time in a separate room doing the course as a group. Unfortunately this only lasted a couple of weeks before people stopped turning up because they had higher priorities*”. Childcare and other family responsibilities were mentioned by only one interviewee: “*. . . not having time to do it at work, and then once at home didn’t have time with children and cooking dinner and other domestic duties*”.

When asked what would make the difference for ‘time’ not to be such a problem, interviewees pointed to the need for strong motivation; incentives and recognition (x4); the lack of need for gaining the unit standards, and the assessment load; with comments including: “*Time is always a problem – you would need to be particularly motivated and do it at home also*”; “*Lack of “a prize” – the course has interesting material but there’s no incentive to complete – no recognition as such – no value in the certificate*”; “*The promise of a pay rise on completion – even a small recognition would be good*”; “*I would need to put a higher value on achieving the units. I don’t need the unit standards and I could get quite a bit from just reading through the*

*materials. I never bothered with the assessments (other than the quizzes)”; “The essay questions are too much – they’re too time consuming”.*

Focus group and telephone interviewees were asked about ‘procrastination’ – were they aware of the concept, and did it affect them in their online study? Procrastination was an issue for the majority of the interviewees (nine of the eleven, 81.8%), with the remaining two being unaffected. When asked how they dealt with the issue, and what can the provider/teacher do to help deal with the issue, interviewee comments included: *“Yes, I’m a procrastinator – with no date pressure I just keep putting it off (x2). More reminders would help. Maybe if you set a finishing time?”; “Yes, procrastination does affect me – because the course isn’t a high priority (x2). Change Training can’t help. I need to have recognition for reaching the goal. At the moment I get nothing but the benefit of learning”; “I’m not a procrastinator – but I did on the essays. They just took too much time and were demotivating. I read through the material and got enough from that. I’m happy not to get the NZQA stuff”.*

A further factor that may have been a contributor to poor retention is the absence in an online learning environment of face to face social interaction. Focus group and telephone interviewees were asked if this factor affected their desire to carry on with the programme. Two interviewees (18.2%) found this was a contributing factor: *“It is good to be able to ask other students questions. Good to be able to discuss the subject matter with them, clarify and expand on things. Be able to ask a tutor things if you want more detail about information. I guess you can do that on the net anyway by ‘Googling’ everything but it is easier to have things explained to you face to face”;* and *“Having a group thing to come along to would be a great motivator – get things done beforehand”;* and one interviewee said: *“I thought it might be a factor, but as I got into the material I didn’t even think about it”.* Interviewees for whom a face to face learning environment was not necessary, explained: *“This wasn’t a factor for me (x3). Peers helped at work. They were able to share their knowledge so it worked well”; “This didn’t affect me, I like it online better. I can work at my own pace. I can take time to go over things and not be interrupted.”* One interviewee didn’t mind studying by herself at all, but found it frustrating that her assessor was anonymous and refused to discuss issues with her. Another interviewee thought that the *“...only benefit I see in face to face is that I have to leave work to do it”;* and one said: *“I like*

*the social interaction in face to face – but I don't have to have it in all the learning I do."*

Focus group and telephone interviewees were asked if they had completed the programme and their reasons for completing or not. Just one interviewee had finished and gave her reason for completing as: *"I always complete something I start. I'm learning a lot. I come from a commercial background so the public sector stuff is new to me."* Time and pressure of work was given as the main reason by the remaining interviewees for not completing. Three interviewees also found the essay-style assessments a barrier: *"No – I didn't complete it. Time was the biggest issue. I read what I needed. I like the multichoice questions but not the essays"*; and for one interviewee, despite being *"told I had to do it, that made it even harder to motivate myself. I wanted to look at the material but not 'learn' it and go through the assessments"*.

Others also expressed a problem with motivation: *"I only completed one unit standard. I had a lack of motivation to do more. I thought about going back to it for interest but never got around to it"*; *"I just ran out of steam and without the incentive from work I never pushed it"*; and another: *"I dropped out for a while and took it up again when things eased off at work – but I'm far from finished."*

#### **4. What do the data tell me about what makes for effective online course design?**

This question focuses on personal attributes that, if taken into account when designing online courses, could positively impact the online learning experience of this group.

Table 4: Factors that contribute to effective course design

		Gender		Age			
Self-assessed level of agreement		F	M	<30	31-40	>41	Totals
Total possible respondents = 77		59	18	23	22	31	77
I need direction to help my learning	Agree	35.6% (21)	50.0% (9)	34.7% (8)	45.4% (10)	38.7% (12)	38.9% (30)
	Neutral	35.6% (21)	27.8% (5)	21.7% (5)	36.4% (8)	38.7% (12)	33.8% (26)
	Disagree	28.8% (17)	22.2% (4)	43.5% (10)	18.2% (4)	22.5% (7)	27.3% (21)
Respondents		59	18	23	22	31	77
I prefer to work out for myself	Agree	50.8% (30)	61.1% (11)	56.5% (13)	54.5% (12)	48.4% (15)	53.2% (41)
	Neutral	28.8% (17)	27.8% (5)	21.7% (5)	22.7% (5)	38.7% (12)	28.6% (22)
	Disagree	20.3% (12)	11.1% (2)	21.7% (5)	22.7% (5)	12.9% (4)	18.2% (14)
Respondents		59	18	23	22	31	77
I prefer to work to deadlines	Agree	54.2% (32)	55.5% (10)	56.5% (13)	54.5% (12)	55.0% (17)	54.5% (42)
	Neutral	30.5% (18)	27.8% (5)	30.4% (7)	31.8% (7)	29.0% (9)	29.9% (23)
	Disagree	15.2% (9)	16.7% (3)	13.0% (3)	13.6% (3)	16.1% (5)	15.6% (12)
Respondents		59	18	23	22	31	77
I work best with flexible deadlines	Agree	32.2% (19)	50.0% (9)	47.8% (11)	27.3% (6)	32.2% (10)	36.4% (28)
	Neutral	38.9% (23)	22.2% (4)	21.7% (5)	54.5% (12)	32.2% (10)	35.1% (27)
	Disagree	28.8% (17)	27.8% (5)	30.4% (7)	18.2% (4)	35.5% (11)	28.6% (22)
Respondents		59	18	23	22	31	77

There was no clear mandate from respondents regarding the need for direction in their learning. Males were more positive about their need for direction than females – and females more positive that they did *not* need direction to help their learning, but given the sample size, the result was not statistically significant ( $p=0.41$ ). Both males and females had a high number of respondents who were neutral. A similar picture

emerges across the age groups – little variation. However, the under 30s were slightly *less* likely to say they needed direction in their learning than those over thirty.

In this respondent group, the younger you are, the more likely you are to prefer to work difficulties out for yourself, with 56.5% of the under 30s voting to do so, 54.5% of the 30-40 age group, dropping to 48.4% in the over 40s. Perhaps the older age group had felt that they had had a lifetime of working things out and they were a little happier to leave that to others. With the small sample size per group, however, the result was not statistically significant ( $p=0.11$ ), although this could be a promising area for further research.

### *Deadlines*

With regards to deadlines a small majority respondents agreed that they preferred to work to deadlines. Almost a third of respondents were neutral about deadlines, with very little gender difference in results. However, significantly more males than females preferred to work to *flexible* deadlines ( $p=0.029$ ).

### *Interview results*

Focus group and telephone interviewees were informed that: *“Just over 50% of the survey respondents said they prefer to work to deadlines. The PSK programme has few deadlines. How do you create them for yourself in an online learning environment? How could the provider/teacher help?”*

Responses were mixed: two were in favour of setting deadlines: *“You (Change Training) could give estimates – for example: ‘it is recommended that you have read this between now and a week’ – a suggested timetable”*; and *“It would help to have a recommended timeframe to complete the unit in. Also times for assessment completion and reminders.”* However, others were unsure and commented that *“Deadlines could motivate but could also be a strong demotivator – this is a tricky one”*; and *“It’s really hard (for Change Training) to set deadlines, everyone’s schedule is different. I think it’s my responsibility to do this. I knew this had to be done when I took on the course”*; *“I’m not sure that deadlines would work with me”*; *“I wouldn’t have liked Change Training to create them for me – defeats the purpose of online learning”* and *“I don’t set deadlines because of the time available. I like it the way it is (without*

deadlines). *In the beginning I went through the material quickly and hadn't been completing the units properly. It would be good to have training on this – maybe an hour at the beginning of the course*". Other interviewees thought that *"some reasonably flexible deadlines might have helped – but I could have set those for myself"*; and *"I'm usually pretty good at setting myself deadlines – but I didn't have the same motivation to do that with this course"*.

Interviewees were also asked what their ideal online support system would look like. Specific responses included: *"Frequent contact (x3) – someone to talk to when you have problems. Feedback timing and quality was also mentioned: "... given within a reasonable time – not down the track, two to three day turnaround. Feedback that you do get needs to be worded in the right tone – is still encouraging even if you have got something wrong. Any recommendations shouldn't be patronising."* IT support was mentioned by one interviewee: *"IT support needs to be 24 hours – If I am online and can't access a computer whenever I want to be able to then there is no point of doing it online – might as well do it face to face."* One interviewee said: *"I like to be able to negotiate with the coach how often I want to be contacted and how. That was really useful"*. Four interviewees were entirely satisfied with the support they were getting and couldn't think of any improvements. The following comment is typical: *"I had no questions or problems. The coaches were responsive, great. So was the technical support. I was very impressed with the support I got."*

Survey respondents were asked to rank in order of usefulness to their learning, six tools that are commonly built into online courseware, ostensibly to enhance the learning experience of users. The tools I focused on in this survey are: multichoice quizzes, reflective questions (where learners are asked to respond to a question, usually by writing in a provided text box), graphics (such as cartoons, photos, diagrams), rollovers/mouse-overs (where the learner passes the cursor over a particular point to access further information), links to other websites, and interactive exercises like drag 'n' drop (where the learner uses the mouse to 'pick up' items on the screen and place them in nominated positions).

Table 5: Factors that contribute to effective content design

		Gender		Age			
Tools by usefulness to learner		F	M	<30	31-40	>41	Totals
Total possible respondents = 77		59	18	23	22	31	77
Multichoice quizzes	In top two	50.8% (30)	72.2% (13)	65.2% (15)	59.1% (13)	48.4% (15)	55.8% 43
	Middle two	30.5% (18)	11.1% (2)	21.7% (5)	22.7% (5)	32.2% (10)	25.9% 20
	Bottom two	13.5% (8)	11.1% (2)	13.0% (3)	18.2% (4)	9.7% (3)	12.9% 10
Reflective questions	In top two	44.1% (26)	55.5% (10)	39.1% (9)	50.0% (11)	51.6% (16)	46.7% 36
	Middle two	30.5% (18)	27.8% (5)	30.4% (7)	18.2% (4)	35.5% (11)	29.8% 23
	Bottom two	18.6% (11)	16.7% (3)	46.1% (6)	27.3% (6)	6.4% (2)	18.2% 14
Graphics	In top two	25.4% (15)	22.2% (4)	30.4% (7)	22.7% (5)	19.3% (6)	24.7% 19
	Middle two	32.2% (19)	55.5% (10)	39.1% (9)	45.4% (10)	32.2% (10)	37.7% 29
	Bottom two	28.8% (17)	44.4% (8)	46.1% (6)	31.8% (7)	38.7% (12)	32.5% 25
Rollovers	In top two	23.7% (14)	11.1% (2)	17.4% (4)	18.2% (4)	26.0% (8)	20.8% 16
	Middle two	40.6% (24)	33.3% (6)	21.7% (5)	68.2% (15)	32.2% (10)	38.9% 30
	Bottom two	27.1% (16)	55.5% (10)	56.5% (13)	13.6% (3)	32.2% (10)	33.7% 26
Links to other websites	In top two	27.1% (16)	16.7% (3)	13.0% (3)	31.8% (7)	29.0% (9)	24.7% 19
	Middle two	32.2% (19)	50.0% (9)	56.5% (13)	27.3% (6)	29.0% (9)	36.4% 28
	Bottom two	35.6% (21)	33.3% (6)	30.4% (7)	40.9% (9)	35.5% (11)	35.1% 27
Exercises like drag 'n' drop	In top two	20.3% (12)	16.7% (3)	30.4% (7)	18.2% (4)	12.9% (4)	19.5% 15
	Middle two	18.6% (11)	27.8% (5)	46.1% (6)	13.6% (3)	22.6% (7)	20.8% 16
	Bottom two	52.5% (31)	55.5% (10)	39.1% (9)	68.2% (15)	55.0% (17)	53.2% 41

Multichoice quizzes and reflective questions came out as the two most favoured tools, with the quizzes in front for the majority of respondents. Males showed a statistically significant preference ( $p=0.03$ ) for the quizzes, with 72.2 % of males as against 50.8 % of females voting it in their top two. Age also had an impact on the popularity of the multichoice quizzes: the younger the respondent, the more likely it was to be voted in a respondent's top two (65.2% of the under 30s, 59.1% of the 30 to 40s and dropping to 48.4% of the over 40s).

There is some evidence that age of respondent also impacted on the popularity of the use of reflective questions to aid learning: the older the respondent, the more popular the tool. 39.1% of younger respondents placing it in the top two and 51.6% of the over 40s group ( $p=0.08$ ). Almost half (46.1 %) of the under 30s placed reflective questions in their bottom two, whereas just 6.4 % of the over 40s did so. I found there was little difference in how the sexes responded to the use of reflective questions.

None of the other tools rated very highly with any respondents, with only minor variations between males and females. Some age differences did show up, however, for what respondents did *not* find useful: Rollovers to further information were most unpopular with 56.5 % of under 30s as opposed to just 13.6 % of the 30 to 40 age group and 32.2 % of the over 40s. The older age groups (over 30s) did not respond at all well to interactive exercises like drag 'n' drop, with 68.2 % of the 30 to 40s and 55 percent of the over 40s placing it in their bottom two.

Data has been analysed around four key questions/issues:

1. Confidence of this group in using computers (for online learning)
2. Motivation factors that might influence retention
3. Barriers to learning that might also influence retention
4. What constitutes effective online course design for this group

The next chapter will pick up the themes and findings that have arisen out of the data.

## Chapter Five – Discussion

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This study set out to investigate possible causes for why student completion rates on an online Public Sector Knowledge (PSK) programme are unacceptably poor, and to thereby identify steps the organisation might take as interventions to improve the situation. The current chapter presents key themes and findings of the study; the major patterns in the data, and whether there is agreement or disagreement with previous work already presented in the review of literature (Chapter Two).

### Key findings

I found that respondents were highly computer literate and confident about their ability to learn online. Motivation was an issue for many respondents. Lack of time to work on their online programme was a significant barrier for almost all respondents. Gender and age differences in learning preferences and use of online tools were apparent and should inform future online course design for this group. The chapter organises key findings into four sections related to my original propositions, with findings related to gender differences discussed in each section:

- Lack of confidence was not a primary reason for withdrawal
- Motivation was an issue for many respondents
- Lack of time was the most widely reported barrier to learning online
- Effective course design must take account of learning preferences.

### *Lack of confidence was not a primary reason for withdrawal*

Lack of confidence in one's ability to effectively manage online course content has been found to contribute to poor retention and completion in online courses internationally (Kirkby, 2000; Kumarawadu, 2004; Martinez, 2003; Mason & Weller, 2001; McNickle, 2001; McVay Lynch, 2001) and nationally (McSporran & Young, 2001). This section examines major patterns in the data about the level of confidence respondents felt in learning online, and compares and contrasts findings with those from the literature. Respondents in the current study were asked to rate their skills and confidence by comparing themselves against a known group, such as their colleagues,

to undertake a range of tasks related to learning online: handling emails, using the Internet to search for information, and using a computer to learn online.

The data clearly reveals a highly computer literate and confident group, with almost 90% of respondents reporting that they have the basic skills and confidence to effectively manage online course content. Yet this confidence and skill is not translating into correspondingly high completion rates. By comparison, McVay Lynch (2001), found that many of the students in her survey of roughly 5000 students, lacked fundamental computer skills and were newcomers to the Internet and that this lack of experience impinged on their ability to adapt to the new learning environment and contributed to the “abysmal” success rate in her institution’s online courses. Apart from the difference in computing and Internet skills, respondents in her survey were similar in many respects to those of the current study. Respondents in McVay Lynch’s survey had an average age of 33 and most were working adults, enrolled at a private university and taking an online course on a part-time basis. The majority of respondents in the current survey are public servants, working in government agencies whose jobs require a range of computing skills, including navigating intranets and extranets. Government policy in recent years has promoted the development of agency websites where all government services (where possible) are ultimately to be delivered online, in addition to the standard face to face or postal facilities. Given this highly web-based environment, and the pervasive nature of computers in the workplace, the survey results of correspondingly high levels of confidence that respondents report in their ability to learn online are not unexpected. There is also the fact that although only a very few years has passed between surveys, Internet use both in New Zealand and internationally, has increased markedly in that time, and this needs to be taken into account when comparing current results with earlier research data.

### ***Gender differences***

Overall, there was little gender difference in levels of confidence about using a computer to learn online (89.8% of females rated their confidence as above average<sup>2</sup>, compared with 77.7% of males). This contradicts Kirkby’s earlier finding (2000) that

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<sup>2</sup> For an explanation of this category (what constitutes 'average') see Chapter 4.

in his respondent group there was a significant relationship between gender and feelings related to confidence/motivation, with almost twice as many females as males reporting that issues relating to confidence/motivation were a main reason for non-completion. I did find, however, that although females in the current study felt more confident about using a computer to learn online, more than twice as many females as males rated their *skills* as below average at handling emails, attachments and at using the Internet. Few local studies directly address gender differences in levels of confidence about learning online, or in self-reported perceptions of skill. McSporran & Young (2001) surveyed males and females in an online Internet and Web Design course to ascertain if, as they hypothesised, and earlier research had indicated, women were disadvantaged in the “cyber-classroom.” They found, to the contrary, that their course favoured women and older students who seemed to be more motivated, better at communicating online and at scheduling their learning. The current study supports findings females are not disadvantaged in the “cyber-classroom” because of lack of confidence in their ability to learn online.

### ***Dependent children living at home***

Respondents with dependent children at home did report increased levels of confidence in learning online, although the difference was at the 0.16 level of significance, and therefore only ‘likely’ that there is a relationship. In analysing this finding I acknowledge Muilenburg and Berge’s (2005) caution when they warn that dependent variables do not necessarily speak to causation. In terms of the current study, having children around appears to foster an encouraging environment that boosts respondents’ attitudes and confidence, but does nothing for their perceived skill levels (perhaps respondents are comparing themselves unfavourably with their child’s level of skill – popular wisdom has it that if you want something downloaded off the net, ask any 12 year-old).

### ***Position in organisation***

Results show that the higher a respondent was in their organisation, the poorer they regarded their skills at handling emails and at using the Internet for online learning. A possible explanation for this apparent relationship could lie in the nature of jobs at the different levels, with non managers and middle managers’ jobs requiring heavier computer use than those in more senior positions whose jobs instead place more

reliance on people management skills. Since all senior managers in the current study are male, it is also possible that for some, the hands-on skills of dealing with emails etc are still regarded as 'secretarial' in nature and as such, deemed appropriate for those lower in the organisation to be more highly skilled at than themselves.

### *Interview data*

No focus group member or telephone interviewee mentioned (lack of) computing ability as an issue in learning online.

In the case of the current study, then, and despite the body of research to the contrary, respondents' lack of skills or confidence, by females or males, in using the computer to learn online cannot be offered as a contributing factor to the poor completion rate of the PSK course.

### *Motivation was an issue for many respondents*

We have seen that lack of computer-based skills or confidence in this particular group was not a barrier to retention or completion of the online programme. This section goes on to look at a variety of motivation factors – another possible area of barriers. I examine how survey participants and interviewees responded to questions about what prompted them to start the programme and what keeps them on the programme, and I compare my findings with those from the literature.

Many writers have identified motivation as a factor critical to online learner success and persistence (Clark, 2001a, 2001b; Frankola, 2001b; Kumarawadu, 2004; Menager-Beeley, 2001; Muilenburg & Berge, 2005; Nitsch, 2003). There is widespread support in the literature for the view, expressed by Clark (2001a) that learning is enhanced when people are driven by personal, rather than external drivers, and that personal goals and benefits to the individual are more motivating than benefits that accrue to the organisation. Kerka (1995) states that adults usually have pragmatic, focused reasons for participating in further education and are largely voluntary participants and will leave whenever they feel their goals have been met, or are unlikely to be met by the programme. The main reason respondents in the current study gave for doing the PSK online programme was to improve their job skills and/or knowledge (62.3%). Kumarawadu (2004) classifies the need to acquire new

knowledge or skills as an extrinsic or external motivator. However, just 49.3% of respondents agreed<sup>3</sup> with the statement 'I need external factors to motivate me' and over a third of respondents (35.1%) neither agreed nor disagreed with the statement. The majority of respondents (71.4%), despite their stated main reason for undertaking the online PSK programme (to improve job skills and/or knowledge), agreed with the statement 'I am a self-motivated learner', with males (83.3%) identifying themselves as such more strongly than females (67.8%). A possible explanation of the apparent contradiction is that being a 'self-motivated learner' sounds positive and something respondents might like to think of themselves as such and as a response it attracted some respondents, whereas when prompted by further questions to consider other motivating factors, they realised the weight of external factors and voted accordingly. The contradiction could also be an indication that they were unsure about their need for external motivators, or even what constituted internal versus external motivators. Further research is indicated to clarify this point.

Jean McGrath, quoted by Frankola, says "few students take classes for mere self-improvement; most do it to improve their situation in the job market" (Frankola, 2001b). The public sector job market, despite past cutbacks, is still a growing area of employment with a wide range of job opportunities. The desire to improve job skills and knowledge is the main reason given by respondents for starting the PSK programme but, as Frankola acknowledges, workplace eLearning is particularly susceptible to high dropout rates: "...a student with internal motivators such as the desire to gain a higher qualification is more likely to succeed than someone who is told to take an online course at work" (Frankola, 2001b). For students in the current study, although most were recruited for the programme in the workplace in specially run seminars, and are undertaking the programme in a work-related capacity, few – just 10.4% – state they are undertaking the programme because it is a requirement of the job, or are driven by the internal motivator to improve their qualifications. This raises a number of questions such as: Why is there such a low value placed on the qualification in the workplace (especially since the skills and knowledge are valued by participants)? How could management foster a commitment to gaining the qualification? Further research is required to find answers to these questions.

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<sup>3</sup> For an explanation of the categories 'Agree', 'Neutral' and 'Disagree' see Chapter Four

Interviewees were not able to say why the qualification had little value in the workplace.

### ***Gaining a 'completion'***

Having a personal goal to gain the PSK Level 3 Certificate qualification would, in turn, be a major motivator in completing assessments, as opposed to just working through the online course material, albeit improving job skills and knowledge along the way. However, as we have already seen, completing all the summative assessments in all 12 unit standards (not just the popular multichoice quizzes) is the only way a valid course completion is registered for the funding body (TEC). Eight respondents stated that they had completed the certificate (10.4%). This figure matches the number who stated they were undertaking the online programme to gain the qualification, but is a long way from the funder's minimum 50% completion rate. Thirty-seven respondents (48%) stated that they had not completed the summative assessments for any single unit standard at the time of the survey, and thirty (39%) said that they were still in the process of working through the courses. From an examination of students' activity (not necessarily of respondents') on the online programme, it is clear that many are only interested in particular topics and see the need to increase their knowledge in limited areas and not in the entire PSK certificate. These students get what they want and effectively drop out of the programme. Very few, however, formally withdraw; they just cease activity, or 'stop out' for lengthy periods of time. Nitsch (2003) suggests that where participation is voluntary, this influences the effort students put into course completion, and that a student that is not able to "maintain motivation and strong attention to the goals being sought is going to have a difficult time focusing on school work, especially in the light of competing responsibilities of work and family. Without clear goals, a student could easily lose sight of why this learning is of benefit and no longer be willing to make the sacrifices needed to be successful" (Nitsch, 2003).

A related group whose continuation or completion of the programme may be at risk when other events compete for time, are those respondents who felt neutral about the online learning experience (29.8%). Further research could be conducted into the relationship between completion and retention and enjoyment of the process of learning online. The data showed that there was very little gender difference in answer

to the question of whether respondents enjoyed learning online. Both females and males were similarly positive (62.7% of females enjoying learning online and 61.1% of males), especially in the older age group.

### *Interview data*

Interviewees were clear about what motivated them to stay and work on the online programme and external factors as motivators were cited by all but two. The motivating role of the online coach and the assessor was acknowledged, especially in suggesting deadlines for assignments and completing individual units. Deadlines, of course, can be self-imposed, suggested by the OLC (online learning coach), as well as being built into the delivery design of the programme. Deadlines are not built into the delivery of the current programme. Further research could be undertaken in this area to determine which combination of applying deadlines is the most effective at keeping people motivated. There was also general agreement that turnaround time on assessments and the quality of feedback influenced motivation. These factors can both be covered by ensuring Performance Indicators for OLCs and assessors are specific about the required behaviours; for instance, specifying a 36 hour turnaround time on summative assessments (formative assessments such as quizzes are marked automatically by the system and results immediately available to students).

Two interviewees were adamant that achievement in the programme must be linked to workplace performance evaluation measures, and that “the boss needs to be behind it”. Monetary incentives were seen (by these two, at least) as more motivating than the online coaching. Two other interviewees stated that being able to apply new skills or knowledge on the job was the key motivating factor. One summed it up: *“Well, I didn’t want or need the unit standards so for me success was learning something new, particularly if I could apply it to my job”*. And for another, *“just reading through the material was my measure of success.”* None of the interviewees (congruent with the very low numbers of survey responses to the question), cited desire to gain the qualification as their reason for starting, continuing or completing the PSK certificate; making them particularly susceptible to Frankola’s “high dropout rates” (2001b) for people undertaking workplace eLearning.

Survey results and interviewee data has raised more questions than answers and there are many areas for further research into what motivates and drives this group in their online learning. Lack of the internal motivator to gain the PSK qualification, and, hence, complete the programme, however, is clearly a major contributor to the poor completion rate.

### ***Barriers to learning that affect retention and completion***

The survey has established that very few respondents had the motivation to attain the qualification; that was not their goal. This lack of motivation has a negative impact on retention and completion. In this section I examine other barriers to completion.

It has become commonplace to note how busy people are and how time has become more and more scarce. The PSK course contains two elements notorious for taking large amounts of time:

- Browsing the web
- Getting to grips with a personal computer

Added to these, students who want to gain the qualification are faced with a large number of summative assessment items that require lengthy written answers.

Almost all respondents in the current study (92.2%) – regardless of gender, age, position in organisation or whether the respondent had dependent children living with them said that finding time to study online was a difficulty. This section examines this key barrier to retention and completion, including the potential problem areas of procrastination and isolation and concludes with a discussion of data from the focus group and telephone interviews, and how findings compare and contrast with those highlighted in the literature.

### ***Impact of dependent children on available time***

‘Time’ was cited as a factor making it hard to study online by slightly more respondents without dependent children than those with dependent children at home (93% and 90.6% respectively). This would suggest that studying online, for most respondents, either is carried out at work, or can generally be fitted around childcare responsibilities rather than particularly interfering with the study.

General family responsibilities (not including childcare), did, however, make it difficult to study for almost 20% of respondents and it is reasonable to deduct that this would have contributed to the issue of 'time'. Findings concur with Mason and Weller's (2001) survey of students who dropped out of a UK Open University online course, the main reasons given (in the 1999 survey and across all UKOU courses) were increased work or family commitments.

### ***Time in the workplace and employer support***

One of Clark's (2001b) six obstacles that have a direct impact on online completions is that students in the workplace often have no time at their desktop to do their online study. He states that the "sheer force of workload can push learning to one side. Work has short-term goals, learning long-term goals. Work goals are immediate and obvious, learning goals need reflection and planning." Interviewees in the current study concur with Clark's (2001b) views and were clear about the way that work tasks and colleagues took priority over working on the online programme, and several talked about the lack of workplace recognition and value placed on the qualification and the demotivating effect this had on their will to complete. Interviewees commented: *"Even though work time is allocated, other things need to be prioritised ahead of it"; "The course is not a high priority at work"; "You have to be very disciplined to set aside time at work – and have cooperative colleagues..."; "Yes, time is a big factor. I have heaps on most of the time (at work) and work stuff always had to take priority"; "There is an issue of the level of urgency you feel to do this, as opposed to doing other things at work that need your attention straight away – it (the PSK online course) can always wait";* Time allocated at work was not always sufficient: *"Even though staff had so much time per week, with the disturbances of people coming to see them about work, it was not practical that they focus. Everyone would need to buy into this and agree to give everyone space to do this".*

These findings support the result of Rachel Curson's (2004) study that identified allowing time for training and learning to occur as a key workplace element needed to foster an effective learning environment. Corporate e-learners also report that the following were their top reasons for dropping out Frankola (2001b):

- Lack of time

- Lack of management oversight
- Lack of motivation
- Problem of motivation
- Lack of student support
- Individual learning preference
- Poorly designed course
- Substandard/inexperienced instructor

Respondents have not made the connection (in the survey) that lack of employer support or management oversight may be factors making it hard for them to study online. These findings are unexpected as they run counter to other research findings (Curson, 2004), and the evidence from respondents themselves stating that finding time to study at work is a major barrier to completion. The relationship between employer support for the online learner in the workplace, and completions is an interesting and potentially fruitful avenue for further research.

### ***Procrastination***

Beasley and Smyth (2004) studied the particular ways in which students in their Masters-level engineering paper used the online learning environment. They report that many students have a tendency to procrastinate rather than exploiting the opportunity for self-paced learning that exists online, which typically leads them to fall behind. Nitsch (2003) comments that a student that procrastinates is particularly vulnerable and quickly overwhelmed as assignment dates come and go with little progress toward completion.

Although survey respondents were not initially asked directly about procrastination, it was raised with focus group and telephone interviewees. Procrastination was an issue for the majority of interviewees (nine of the eleven), with the remaining two being unaffected. Two interviewees pointed to the value of deadlines in helping to deal with procrastination: *"I think that it's useful if you have an assignment that is due on a certain day. Like focusing on learning things for an exam – (the) external factor helps me to focus. I like a time to work towards, otherwise it is much easier to*

*procrastinate*"; "Yes, I'm a procrastinator – with no date pressure I just keep putting it off. More reminders would help. Maybe if you set a finishing time?"

Others linked motivation and procrastination: "Yes, procrastination does affect me – because the course isn't a high priority. Change Training can't help. I need to have recognition for reaching the goal. At the moment I get nothing but the benefit of learning"; "Yes, I'm a terrible putter-offer. Learning online is really hard – unless you have a rock-solid motivation" and "Yes, but mostly because other things take priority". For one interviewee the summative assessment load was demotivating and led to procrastination: "I'm not a procrastinator – but I did on the essays. They just took too much time and were demotivating. I read through the material and got enough from that. I'm happy not to get the NZQA stuff."

### **Isolation**

We have already seen that there is a greater likelihood that a student will not complete online courses than an on-campus course (Nitsch, 2003; Torres-Gil et al., 2000). Bocchi, Eastman & Owens Swift (2004) state that to prevent students from feeling isolated, online courses must provide students with opportunities for interaction with tutors, other students, and course content and give students the opportunity both for team building with their classmates and for community building. As with the issue of procrastination, survey respondents were not initially asked (in the online survey) whether the absence in the online learning environment of face to face social interaction was a factor that may contribute to their dropping the PSK programme. However, focus group and telephone interviewees were asked and two interviewees found isolation was a contributing factor. More research is needed to establish whether isolation is a widespread factor that needs addressing in the current course. Although the PSK programme currently does not take a blended learning approach (online learning combined with another venue, typically classroom training), there is evidence in the literature it (blended learning) is a learning delivery design implicit in many success models (Barbian, 2002; Troha, 2002). We encourage organisations wherever possible to incorporate the PSK online programme into a blended delivery approach in the workplace. We favour an approach that is mentored and supported by management, especially senior management, and which reduces participant's feelings of isolation and lack of collegial support. Unfortunately, our influence over whether government agencies take up this suggestion, to date, has been limited. Although not

available at the time of the survey, software enhancements have since enabled the implementation of discussion forums. These will provide students with needed opportunities for interaction with their OLC and other students for team and community building.

### **Effective course design**

In this section I address issues relating to course design and how these might affect a student's chances of completing an online programme. I draw from the results of the current study and from the literature.

The demographic profile of the PSK programme is wide; for example, ages range from 17 to 66 with the average being 36. This diversity reflects current recruitment and retention policies of government agencies and implies the need to adopt a learner-centred design process, rather than use an off-the-shelf, templated solution.

### ***Need for direction in learning***

Online course designers can build, to a greater or lesser degree, direction into the final course structure. To gain information that might assist our own course designers, I surveyed respondents about their need for direction in their learning. Results showed that respondents, taken as a group, did not report a strong need for direction in their learning. 'Direction' in learning includes aspects such as: what to study, in what order, when and how long to spend on particular topics, and specifying how, what and when assessment occurs. It also covers perhaps more subtle areas such as the course purporting to provide all the content, thereby restricting participants' access to differing points of view and experiences. The way content is presented online, via the content management system (CMS) in itself suggests a structure, a direction, to learners. In the PSK programme, for instance, the COLTS CMS presents courses in the familiar 'tree structure' with a course at the top of the hierarchy, branching down to topics and finally individual 'pages'. Although learners (in COLTS) are free to move about and establish their own pathways through the material, the structure does suggest an implicit direction. The assessment structure is integrated with the course content and although learners can choose when to do a particular assessment, those choices are not immediately obvious. Further research could be undertaken to establish how CMSs constrain or enable learner choice.

In the current study males were more positive about their need for direction than females – and females more positive that they did *not* need direction to help their learning. There was also a preference for under-30s (close to half) *against* the need for direction to help their learning.

Current practice is for the OLC to make initial contact with learners within two days of their start date. A major objective of this early contact is to establish the learner's preference with regard to direction in learning and to encourage learners to set their own timetables for their online learning, and to offer a suggested model as a starting point, along with a range of time-management and goal-setting tools. Learners are also encouraged to explore their learning style through a number of assessment tools that give learners immediate feedback and suggestions on how they might optimise their online learning experience. In future, learners could also opt to complete a range of self-analysis tools that could give them an indication of their need for direction in learning and how they might best meet that need in this particular online environment. The content management software (CMS) currently allows the course designer (or course deliverer) to timetable online content so that a learner's progress through the content is 'managed' (or to leave the learner to decide their own pathway through the learning materials). It is possible that enhancements to the software could put that ability into the hands of the learner. A learner-centred approach to course design and presentation could enable learners, if they chose, to establish (in isolation or in conjunction with their online learning coach) their own course structure from a range of resources, or to restructure current courses to suit their own learning preferences. The challenge is not in the delivery, for CMSs can support these approaches, rather it is to find ways funding and accrediting bodies can accommodate such offerings, for each learner would create a unique set of courses.

### ***I prefer to work to deadlines***

Survey results showed that just over half (54.5%) of respondents reported that they had a preference for deadlines in their learning. Flexible deadlines were less popular: with 36.4% stating a preference for them. Current practice meets both these learners' needs with the OLC working with learners at the outset of their online study to establish deadlines and negotiating how the OLC might assist the learner in meeting

them. Given these findings (over half of respondents wanting deadlines) a useful enhancement to the CMS could be for the system to 'ask' the learner when they enrolled, if they preferred deadlines in their learning, and if so, enable the learner to simply programme some in. This information could go directly to the OLC who could then tailor their support accordingly. Further research in the area of deadlines and their use as a tool to assist completion would undoubtedly highlight a range of other interventions (human and computerised) that could be trialled.

### ***I prefer to work difficulties out for myself***

Just over half of respondents (53.2%) reported that they preferred to work difficulties out for themselves. Course designers can facilitate this by, for example, providing learners with a range of problem-based scenarios, case studies and by asking learners to analyse and look for solutions to actual problems they face in their own workplace.

### ***Online learning tools***

Respondents were presented with a range of tools designed to facilitate online learning, and asked to rank the tools in order of their usefulness. Two tools were clearly favoured by respondents: multichoice quizzes and reflective questions. The online multichoice quizzes voted as most useful for learning by the majority of respondents. It's not hard to explain the popularity of the quizzes; perhaps the most important factor is that they give immediate feedback on progress. But there's also the fact that the structure is familiar and very simple – people know what to do, they're quick and give enough challenge to make people think but not enough to be off-putting. In this survey, males showed a statistically significant preference for the quizzes ( $p=0.03$ ). Further research is needed to help identify any other gender-based preferences in learning tools. Age also had an impact on the popularity of the multichoice quizzes: the younger the respondent, the more likely it was to be voted in a respondent's top two.

### ***Reflective questions***

Almost half of all respondents placed 'Reflective questions' in their top two most useful tools for learning. Age of respondent also impacted on the popularity of the use of reflective questions to aid learning: the older the respondent, the more popular the tool. In comparison, almost half of the under 30s placed reflective questions in their

bottom two, whereas just 6.4 % of the over 40s did so. The data does not reveal reasons for the age-related results. More research is indicated here. It is possible that older respondents enjoy the opportunity the reflective questions give them to think about why they do things a particular way or believe certain things. Their experience is called on and, as such, is 'valued'. Respondents unused to the process of reflection may also have discovered areas of knowledge and skill in themselves that they had previously been unaware of, and found the experience affirming. Other possible reasons could include the probability that the older a person, the more reflection they are likely to have undertaken, and therefore find answering such questions relatively easy and painless. Older respondents, too, may find it difficult to ignore a learning task, and feel guiltier than a younger person might in moving on to the next activity. Further research is clearly indicated in the area of age and gender differences in online learning behaviour. Developing reflexive practice is a useful personal skill as well as a valuable workplace attribute. Instructional designers, if they are to engage all age groups in reflection need to explore ways of easing younger learners into the practice, whilst still providing enough challenge for older participants.

Tools that did not rank well with respondents were exercises like drag 'n' drop (over half of respondents placed this tool in their bottom two for usefulness); links to other websites (a third placed them in their bottom two); rollovers (a third placed them in their bottom two); and graphics (almost a third placed them in their bottom two). Further research is indicated to identify how useful these tools are in their own right as opposed to in comparison with the other, much more popular tools. In the current PSK courses, learning activities that utilise such tools are optional.

The message for online instructional designers is clear – one size does not fit all. What appeals and may well, therefore, enhance the learning of one person will not necessarily help another. A learner focus in the design and operation of learning materials, such as suggested by Zepke & Leach (2005) is required. Online materials and learning objects need to be varied and provide learners with choices about the types of activities they undertake. Research into the use and value of learning tools in the online environment is clearly indicated and should go hand in hand with developments in online instructional design.

## Chapter Six – Conclusion

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This research project arose from the need to understand why student completion rates on our online Public Sector Knowledge (PSK) programme were unacceptably poor. In seeking this understanding further questions arose: “What particular interventions and strategies will improve the retention and completion rates of students on the Public Sector Knowledge online programme?” and “What internal and external barriers to learner success do participants experience?” In this chapter I draw conclusions from the study in an attempt to answer those questions. Findings related to those questions are presented in three sections: Conclusions, Recommendations and Implications for further research.

### 1. Conclusions

- 1.1 Few respondents had a learning goal to complete the qualification. The impact of this lack was felt in many areas and I believe is at the heart of why completion rates on the certificate programme are unacceptably poor. Respondents work through the learning materials, get what they want out of them, and, without the need to gain the qualification for personal or work reasons, bypass the time-consuming summative assessments that constitute a ‘completion’ and effectively ‘drop out’.
- 1.2 Lack of time to work on their online programme was a significant barrier for almost all respondents in the survey. Time was particularly an issue for respondents in the workplace as work-based tasks and colleagues took priority over working on their online programme, even when they had dedicated time to do it.
- 1.3 This group of respondents is highly computer literate and confident and did not experience computer-related issues as a barrier to their continuation or completion of the online programme. Lack of confidence in learning online, or lack of computing skills was not a reason for withdrawal from the course, nor in completions. Gender differences were not evident in respondent’s skills and confidence at learning online.
- 1.4 Two learning design tools: multichoice quizzes and reflective questions were clearly more popular with respondents in helping their online learning. I found

that in this respondent group gender-based and, to a lesser degree, age-related preferences also exist.

- 1.5 When feedback was received within expected timeframes it was a positive motivator, otherwise it was a demotivator.
- 1.6 The current summative assessment structure and tools are failing to engage learners: almost half of all respondents had not completed the summative assessments for any single unit standard at the time of the survey.

## 2 Recommendations

The following recommendations, developed from an analysis of results, are offered in response to the initial research question: “What particular interventions and strategies will improve the retention and completion rates of students on the Public Sector Knowledge online programme?”

- 2.1 *Work with employers and the Public Sector Training Organisation (PSTO) to ensure achievement of the certificate is given a higher value and profile than currently, and ideally, is integrated into work practices.* The PSK certificate is a vocationally-based qualification and public sector employers have a significant influence on the uptake and completion rate of the qualification. Recognition in the workplace, links to the performance management system and even to pay increases, were mentioned by interviewees as strategies that they regarded would enhance their motivation to achieve the qualification. Change Training recruitment staff can work closely with an agency’s training and development team to raise the profile of the qualification, suggest ways learning times can be safeguarded, and how teams can share their learning and how it applies on the job. Not all staff who complete the qualification can gain a pay rise, of course, but achievement of the certificate could materially assist in job promotion and movement.
- 2.2 *Provide learners with a variety of self-assessment tools to help raise their awareness of such things as; their motivation style, their need (or otherwise) for deadlines, their online learning style, and the impact of these on their online learning.* OLCs could then work with (the more self-aware) participants to

establish their learning goal for the programme, and OLCs would have an understanding of the types of motivators that apply for individuals and could tailor their coaching accordingly. Deadlines, as a motivational tool can, of course, be self-imposed, suggested by the OLC, as well as being built into the delivery design of the programme. In the latter, there are many different ways this can happen; sections of the course content can be made available to the participant, for instance, only after certain conditions are met, such as submitting a particular piece of work. For a learner for whom deadlines are an important motivator, and who wishes to establish some, the OLC could work with them to identify the most likely successful means of achieving this.

2.3 *Establish discussion groups and forums that encourage participants to develop a sense of being part of a 'learning community'.* Discussion forums could fulfill a number of roles: to foster commitment to a particular learning group, to learn from others and thus enhance one's own learning, and, through the group process, clarify one's own learning goals, share one's own achievement and that of others'. Forums at this level also have the potential to widen participant's collegial networks, open up awareness of the diversity of the public sector, and foster a keener understanding of the key goals of the qualification. Well-run forums have the potential, too, to have an equalising, levelling effect and serve to break down some of the barriers inherent in a hierarchical system such as the public sector.

2.4 *Ensure Performance Indicators for OLCs and assessors specify required behaviours such as:* a 36 hour turnaround time on summative assessments (formative assessments such as quizzes are marked automatically by the system and results immediately available to students); level of feedback on assessments; number and type of contacts by OLCs. For many students their main contact with the learning coach or assessor was through the feedback on assessments, thus such feedback took on a significance it would not carry in a face to face contact setting. At the time of the survey average turnaround time for summative assessments was four working days, within the five day timeline given to students at the beginning of the course. Although turnaround time was mentioned by only a few, it seems clear that learner's expectations regarding the speed of processes on an online programme are different from and more demanding than equivalent expectations on a face to face course.

- 2.5 *Redesign the summative assessment structure and delivery to fully utilise and integrate the learning design tools respondents have indicated are most helpful in their online enhancing learning.* PSTO pre-approves all summative assessments so would necessarily be involved in any redesign of the assessment structure and delivery aimed at achieving a more appropriate match to the outcomes of the certificate and a higher completion rate. In the long term this will likely entail a re-examination of the unit standards; addressing the relevance of the standards to current public sector needs.
- 2.6 *Encourage those participants who want the skills and knowledge, but not necessarily the full qualification, to enrol on fee-paying formative assessment courses only.* This would enable us to channel resources more effectively towards learners who need it most – those completing the summative assessments.

### **3 Implications for further research**

- 3.1 It is not clear *why* is there such a low value placed on gaining the qualification in the workplace, especially given the skills and knowledge are reportedly valued by participants. It would be useful to have some indication of why this might be, before a number of the recommendations are actioned, as answers would influence which recommendations are adopted and to what extent. A related area of research could then be to examine how management might foster in employees, a commitment to gaining the qualification. If the qualification is to continue to be provided as an online programme, then more research is needed to establish how it can be better integrated into workplace goals.
- 3.2 The area of motivation yields a number of potentially fruitful avenues for further research. Respondents seemed to be unsure, or at least, conflicted, about their need for external motivators, or even what constituted internal versus external motivators. Further research could clarify this point and give some insights into the motivations of adults to embark on and persist in, online learning, especially workplace eLearning. A related area of research is to examine the relationship between completion and retention and enjoyment of the process of learning online; the influence enjoyment has on motivation and vice versa. Further research could also be undertaken to determine the role deadlines play in motivation and, in particular, which combination of applying deadlines (self-

imposed and monitored, OLC imposed or system imposed) is the most effective at maintaining motivation and achieving completions. Further research in the area of deadlines and their use as a tool to assist completion would undoubtedly highlight a range of other interventions (human and computerised) that could be trialled.

- 3.3 The relationship between employer support for the work-based online learner and retention and completion rates could provide some important insights into this growing area of training and development. In the current survey respondents have not connected lack of employer support or management oversight as factors making it hard for them to study online. These findings are unexpected as they run counter to other research findings (Curson, 2004), and evidence from respondents themselves stating that finding time to study at work is a major barrier to completion.
- 3.4 Bocchi, Eastman & Owens Swift (2004) have established that online students can feel isolated, and that this contributes to their lower (than their face-to-face counterparts') completion rates. Research is needed to establish whether isolation is a widespread factor that needs addressing in the current course, and whether a blended delivery approach or utilisation of social learning tools such as forums, would positively affect completion rates.
- 3.5 The design and functionality of the content management system (CMS) – how content is organised and delivered – is another area that gives rise to many research questions. Of particular interest is how CMSs constrain or enable learner choice; how the learner interacts with the learning site, materials, other learners, and the effect the CMS has on retention and, ultimately, on completions.
- 3.6 Further research is indicated in the area of learning tools that enhance learning online, especially in relation to gender and age. In the current survey, males reported a preference for multichoice questions and further research could explore this and help identify any other gender-based or age-related preferences in learning tools (age had an impact on the popularity of the multichoice quizzes: the younger the respondent, the more likely it was to be voted in a respondent's top two, and an inverse relationship was shown between age and reflective questions). The current data does not reveal reasons for the age-related results and more research is clearly indicated.

- 3.7 Further research could identify how useful other learning design tools not surveyed, as well as the less popular (in the current survey) learning tools; exercises like drag 'n' drop, links to other websites, rollovers, and graphics, are rated in their own right as opposed to in comparison with the other, more popular multichoice and reflective questions.
- 3.8 Further research is needed to identify how the unit standards can be modified to meet the needs of their target audience – working public servants. Such research could also identify a range of assessment tools and an assessment methodology appropriate to the desired outcomes.

It remains to be seen to what extent (if at all) implementation of the above recommendations, and actions suggested by further research data will move completions to the required fifty percent level within a timeframe acceptable to the TEC.

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## *Appendix One: Information sheet to prospective participants*

### **Learner Success in eLearning – room for improvement? – But how?**

#### **INFORMATION SHEET**

My name is Christine Roberts and I am currently a postgraduate student with the Graduate School of Education, Massey University. I would like to invite you to participate in a project looking at the factors that influence the success or otherwise of people who are learning online. I work as Manager Tertiary Developments for Change Training Ltd. To ensure there is no conflict between that role and my role as researcher I have put in place the following strategies to ensure I do not have access to personal information about you:

- Personal details will not be included in the survey, nor stored on any web browser cookies.
- Questionnaire responses will go into a specially created and secure, survey server.
- Each response is allocated an identification number. This unique ID will be the only identifier I, as researcher, sees.

Change Training produces online learning materials and I am interested to find out what interventions we can introduce that might enhance learner success. It is important to us that we collect information from a broad cross-section of individuals so this invitation to participate is going to all people who enrol on the Change Training Public Sector Knowledge courses.

Your enrolment through Change Training has triggered this automatic email invitation. When your response is received, IT staff, who have signed a Confidentiality Agreement, will strip your identity from your response before forwarding it to me.

The online questionnaire should only take 10 - 15 minutes to complete and can be submitted online. Submission of the questionnaire implies consent. As a researcher, I will respect the following rights of all participants throughout the research process. 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 no individual or organisation names will be used
- be given access to a summary of the project findings when it is concluded.

Results will be used to improve the learning experience, initially, of all learners undertaking Change Training's online courses. Your contribution will also help identify and strengthen best practice in online learning delivery in New Zealand. Information from this project may be published in relevant forums but will be presented in such a way that no specific individual or organisation is identified. Confidentiality of any personal information you provide is assured. A summary of the findings of the research will be available on Change Training's research webpage and will also be made available to all participants upon request.

You should be aware that we may contact you later with a request for your participation in a follow-up study – either by attending a focus group interview or participating in a telephone interview. Participants will be selected to ensure a gender balance in the groups.

However, agreement to participate in this questionnaire in no way obliges you to be involved in the follow-up study (focus group or telephone interview). If you have any questions about the project, either now or in the future, please feel free to contact me at my office 04 474 9675 or on email [christine.roberts@changetraining.com](mailto:christine.roberts@changetraining.com), or you could contact my supervisor, Nick Zepke, Graduate School of Education, Massey University, email [N.Zepke@massey.ac.nz](mailto:N.Zepke@massey.ac.nz) Or phone 04 801 2794.

*Appendix Two: Permission from Change training*

Learner Success in eLearning – room for improvement? – But how?

The Managing Director  
Change Training  
Box 12 524  
Wellington

I am writing to you in my role as a postgraduate student with the Graduate School of Education, Massey University.

You are aware that I am undertaking a research study titled: *Learner Success in eLearning – room for improvement? – But how?* This study will examine the factors that influence the success or otherwise of people who are learning online. Its aim is to improve student retention and completion rates and provide some baseline data on best practice.

As part of this study, I seek your agreement to access the data on students enrolled at the various Institutes of Technology and Polytechnics that Change Training has partnerships with. This request to access student data is an integral part of the wider ethical approval I am seeking for the project from Massey University's Human Ethics Committee.

The student data is currently on a secure server housed at Change House, Wellington. The information I require for the research project is baseline data on students:

- Demographic information
- Online Activity

No students will be identifiable in the findings or disadvantaged in any way. All students will be invited to participate in further aspects of the research including an online questionnaire, focus groups, and telephone interviews. Informed consent will be obtained at each further research activity.

I seek your approval for nominated IT staff to access the databases on my behalf. I estimate that the time involved on the whole research project of IT staff would total no more than 10 hours.

I also seek your approval for publication details of the finished project to include company identifying details such as name, address and so on.

I would appreciate it if you would sign and return the attached permission form.

Christine Roberts may/may not access the student database in order to establish baseline data for her research project.

Christine Roberts may/may not access the online student database in order to invite student participation in the research study.

I agree/disagree that publication details will include company identifiers.

Please return this form within 10 days of receipt to:

Christine Roberts  
Change Training  
P.O Box 12 524  
Wellington

If you have any questions about the project, either now or in the future, please feel free to contact me at my office 04 474 9675 or on email [christine.roberts@changetraining.com](mailto:christine.roberts@changetraining.com), or you could contact my supervisor; Nick Zepke, Graduate School of Education, Massey University, email [N.Zepke@massey.ac.nz](mailto:N.Zepke@massey.ac.nz) , or phone 04 801 2794.

Thank you for taking the time to consider this request.

Yours sincerely

Kind regards

*Appendix Three: Staff confidentiality agreement*

Learner Success in eLearning – room for improvement? – But how?

CONFIDENTIALITY AGREEMENT

I,  
agree to keep confidential all information concerning the project:

Learner Success in eLearning – room for improvement?

I will not retain or copy any information involving the project.

Signature: ..... Date: .....

#### *Appendix Four: Information sheet for telephone interviewees*

Learner Success in eLearning – room for improvement? – But how?

#### INFORMATION SHEET FOR TELEPHONE INTERVIEWEES

Hi, my name is Christine Roberts and I am currently a postgraduate student with the Graduate School of Education, Massey University. Thank you for your time in completing the online questionnaire. I would now like to invite you to participate in a telephone interview where I'll ask you some questions that look more closely at the factors that influence the success or otherwise of people who are learning online. It is important to us that we collect information from a broad cross-section of individuals so this invitation to participate is going to a representative sample of people who completed and submitted the online questionnaire.

The questions should take about half an hour. Please email me back, indicating a time and number that is most convenient for me to ring you for the interview. If you choose to be contacted at work please tick the checkbox below:

My manager is aware and supports my being contacted at work to complete the telephone interview ☐

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You have the right to:

- decline to answer any particular question
- withdraw from the study at any time
- request to see the notes taken from the telephone interview
- ask any questions about the study at any time during participation
- provide information on the understanding that no individual or organisation names will be used
- be given access to a summary of the project findings when it is concluded.

Results will be used to improve the learning experience, initially, of all learners undertaking Change Training's online Public Sector Knowledge courses. Your contribution will also help identify and strengthen best practice in online learning delivery in New Zealand. Information from this project may be published in relevant forums but will be presented in such a way that no specific individual or organisation is identified. Confidentiality of any personal information you provide is assured. A summary of the findings of the research will be available on Change Training's research webpage and will also be made available to all participants upon request.

To thank you for your participation, you will receive a \$20.00 book token or a Mitre10 \$20.00 gift voucher.

If you have any questions about the project, either now or in the future, please feel free to contact me at 04 474 9675 or email [christine.roberts@changetraining.com](mailto:christine.roberts@changetraining.com), or you could contact my supervisor; Nick Zepke, Graduate School of Education, Massey University, [N.Zepke@massey.ac.nz](mailto:N.Zepke@massey.ac.nz) Phone 04 801 2794.

Kind regards

## *Appendix Five: Information sheet for focus groups*

Learner Success in eLearning – room for improvement? – But how?

### INFORMATION SHEET FOR FOCUS GROUPS

My name is Christine Roberts and I am currently a postgraduate student with the Graduate School of Education, Massey University. Thank you for your time in completing the online questionnaire. I would now like to invite you to participate in a focus group that will look more closely at the factors that influence the success or otherwise of people who are learning online. It is important to us that we collect information from a broad cross-section of individuals so this invitation to participate is going to a representative sample of people who completed and submitted the online questionnaire.

Your attendance at the focus group should take about an hour and a half. Light refreshments will be served, and to thank you for your participation, you will receive a \$20.00 book token or a Mitre10 \$20.00 gift voucher. As a researcher, I will respect the following rights of all participants throughout the research process. You have the right to:

- decline to answer any particular question
- request to see the notes taken as a record of the focus group meeting
- withdraw from the study at any time
- ask any questions about the study at any time during participation
- provide information on the understanding that no individual or organisation names will be used
- be given access to a summary of the project findings when it is concluded.

Results will be used to improve the learning experience, initially, of all learners undertaking Change Training's online courses. Your contribution will also help identify and strengthen best practice in online learning delivery in New Zealand. Information from this project may be published in relevant forums but will be presented in such a way that no specific individual or organisation is identified. Confidentiality of any personal information you provide is assured. A summary of the findings of the research will be available on Change Training's research webpage and will also be made available to all participants upon request.

If you have any questions about the project, either now or in the future, please feel free to contact me at my office 04 474 9675 or on email [christine.roberts@changetraining.com](mailto:christine.roberts@changetraining.com), or you could contact my supervisor; Nick Zepke, Graduate School of Education, Massey University, email [N.Zepke@massey.ac.nz](mailto:N.Zepke@massey.ac.nz) Or phone 04 801 2794.

Kind regards

*Appendix Six: Participant consent form – focus group*

Learner Success in eLearning – room for improvement? – But how?

FOCUS GROUP PARTICIPANT CONSENT FORM

This consent form will be held for a period of five (5) years

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/do not agree to the focus group being audio taped.

I agree to not disclose anything discussed in the Focus Group

I agree to participate in this study under the conditions set out in the Information Sheet.

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

Full Name - printed \_\_\_\_\_

## *Appendix Seven: Focus group and telephone interviewee questions*

### Interviewee questions

1. Most people in the survey said that 'time' was the biggest barrier to getting on with their online study. What does this mean for you? What would have to be different for 'time' not to be a problem?  
How do you deal with 'time issues'?
2. Are you aware of the concept of 'procrastination'? Putting things off. This has been identified as a real issue for online learners. Does this affect you? How?  
How do you deal with this issue? What can the provider/teacher do to deal with the issue?
3. 75% of respondents agreed with the statement: 'I prefer to have external factors to motivate me'. In learning online, what sorts of external factors motivate you?
4. In the PSK programme – what for you is your measure of success? How do you know you have got what you wanted from the course?
5. One of the features of face-to-face learning is the social interaction. This is absent in the online PSK programme. Did this affect your engagement or desire to carry on with the programme? If it did, how?
6. What would an ideal online support system look like to you? (try and get as much as you can here)
7. Did you complete the programme – why? Why not? (Try and get at the why not)
8. Just over 50% of the survey respondents said they prefer to work to deadlines. The PSK programme has few deadlines. How do you create them for yourself in an online learning environment? How could they provide/teacher help?

*Appendix Eight: The online survey questions*

Public Sector Knowledge Questionnaire: Learning online

A)

This section provides us with information about you, so we can make comparisons amongst participants. This information will be aggregated, and will not be used to identify individuals.

q00098: How old are you (in years)?

q00099: Are you married/living with a partner?

Please choose only one of the following:

Yes

No

q00100: Do you have any dependent children living with you?

Please choose only one of the following:

Yes

No

q00200: Are you currently in paid employment? (Please select one)

Please choose only one of the following:

Yes

No

B)

[Only answer this question if you answered 'Yes' to question 'q00200 ']

q00300: Please indicate which of the following best describes the level of your current job in your organisation

Please choose only one of the following:

Non-management

Senior management

Supervisor

Owner/Operator

Middle management

Other

q00400: Are you currently completing any other courses?

Please choose only one of the following:

Yes

No

C)

[Only answer this question if you answered 'Yes' to question 'q00400 ']

q00500: Are these courses:

Please choose only one of the following:

Work-related and paid for

Work-related but I paid

Not work-related and paid for by employer

Not work-related and paid for by me

q00600: What is the one main reason you are doing this Public Sector

Knowledge qualification?

Please choose only one of the following:

I have to for work

To improve my qualifications

To get a new or different job

To improve my job skills and knowledge

To get a pay rise or promotion

Other

q00700: Which of the following makes it hard for you to do your online

study

Please choose all that apply

Time

Cost

Computer problems

Difficulties getting to a computer

Disability

Childcare

Other family responsibilities

Lack of employer support

English is my second language

No difficulties

Other:

q00800: Do you have Internet access at home?

Please choose only one of the following:

Yes

No

q00900: Which operating system do you use for the online course?

Please choose only one of the following:

Windows

Macintosh

Linux

Don't know

q01000: What web browser do you primarily use?

Please choose only one of the following:

Internet explorer

Netscape

Mozilla

Opera

Safari

None

Don't know

Other

D)

q01100: Please rate yourself at the following tasks (1=excellent, 2=good, 3=average, 4=fair, 5=poor)

Please choose the appropriate response for each item

sending/receiving/forwarding emails 1 2 3 4 5

sending/receiving email attachments 1 2 3 4 5

using the web to search and locate specific information 1 2 3 4 5

downloading software to view certain webpages (e.g., Adobe, Flash, Quicktime, Media Player etc.) 1 2 3 4 5

q01200: How important are the following features to your learning?

Please number each box in order of preference from 1 to 6

Graphics, pictures, cartoons

Exercises like Drag and Drop

Multichoice quizzes

Links to other websites

Rollover (roll mouse over item and information appears)

Questions for you to think about

E)

q01300: Using the below scale, please choose one option that best suits

you. Please choose the appropriate response for each item

Strongly agree; Agree; Neither Agree Or Disagree; Disagree; Strongly Disagree

I enjoy learning online

I need direction to help my learning

I am not afraid to ask the tutor questions

I prefer to work to deadlines

I prefer to have external factors to motivate me

I am not very confident using computers

I have not increased my ability to use the Internet or email from  
doing this online course

I prefer not to use computers as a learning tool

I have little interest in the World Wide Web

I prefer to work difficulties out for myself

I work best with flexible deadlines

I am a self-motivated learner

I prefer to answer this type of survey online

I am confident about my ability to use a computer for online learning

I like having the opportunity to learn online

I am interested in courses that use the World Wide Web

I have learned more about the Internet and email as a direct result  
of taking the course

I am self-motivated

I prefer classroom-based methods of learning

I would rather complete a paper version of this survey

I enjoy learning independently

I enjoy learning at my own pace

F)

q01400: How much of the Public Sector Knowledge course did you complete?

Please choose only one of the following:

Knowledge 1 - The Very Civil Servant

Knowledge 2 - Serving the Public Interest

Both Knowledge 1 and 2

Did not complete any

G)

[Only answer this question if you answered 'Knowledge 1 - The Very Civil Servant' or 'Knowledge 2 - Serving the Public Interest' or 'Did not complete any' to question 'q01400 ']

q01500: When did you leave the programme?

Please choose only one of the following:

I enrolled but did not access the courses

I completed less than 2 unit standards

I completed about 50% of the programme

I completed about 75% of the programme

I completed most of the assessments

I completed all that I needed to for work

[Only answer this question if you answered 'Did not complete any' or 'Knowledge 2 - Serving the Public Interest' or 'Knowledge 1 - The Very Civil Servant' to question 'q01400 ']

q01600: What kept you from finishing the programme?

Please choose all that apply

Did not have reliable access to a computer

Had too many technical difficulties

Difficulties balancing time

Couldn't understand the material

My skill level didn't match that required for success in the course

Didn't receive sufficient technical support

Didn't receive sufficient learning support

Other:

H)

q01700: What do you believe helped you succeed in the course?

Please choose all that apply

Excellent time management skills

Highly motivated

Highly interested in the material

Received adequate help from online coach

Received timely and useful feedback for assignments/exercises/questions

Other:

q01800: What aspects of the course did you enjoy the most?

q01900: What did you find the least enjoyable?

q02000: What did you find the most difficult?

q02100: Overall, how would rate your online learning experience of the

Public Sector Knowledge courses? (1=excellent, 2=good, 3=average, 4=fair, 5=poor)

Please choose only one of the following

1 2 3 4 5

q02200: If you wish to participate further in the focus group/interview, When is the best time to contact you?

Submit Your Survey

Thank you for completing this survey.

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