Te Whakatū Kōrero
Working Papers

On Transfer: the Distance Learner and the Transfer of Learning

— Stephanie Doyle

A list of Working Papers previously published by The Open Polytechnic is included with this document.

Abstract

The problem of transfer of learning has been an enduring one, with contestation occurring over definitions, theories, and measures, and whether transfer to new situations is possible. Evidence of transfer has often proved elusive in studies conducted in artificial or laboratory settings. The study reported here explores the learning and transfer experiences of learners enrolled in a Bachelor of Business degree with a distance education institution, The Open Polytechnic of New Zealand. Such a degree is designed for practical application, and those who enrol in the degree expect to be able to use or transfer what they learn to new and different contexts. Learning to transfer has two aspects in this context: the motivation for learning, and the process of learning for transfer. The research methodology, while predominantly qualitative, also drew on quantitative approaches. In the first stage of the research, there were 92 respondents to a postal survey. The survey data provided a picture of the experiences of the learners and of key factors in the transfer of learning. The survey findings and those from interviews with design and teaching team members helped shape and inform the final stage of the research: in-depth interviews with learners.

A number of factors are discussed in the report, including

- prior learning

- motivations

- the experience of learning

- the distance dimension

- generic or essential skills

- the transfer experience

- aids and barriers to transfer

- the implications for course design and delivery

- implications for future research.

The evidence from the research supported the reconceptualisation of transfer as preparation for future learning. The experiences of these learners suggest that distance education, by enabling the integration of learning and living, increases the possibilities for transfer of learning. It is argued that transfer of learning needs to be explicitly addressed within the design, delivery and evaluation of all courses and programmes of study.

The study reported here was undertaken as part of a doctoral thesis submitted to Victoria University in 2002 (Doyle, 2002).

Contents

Acknowledgements

On transfer: The Distance Learner and the Transfer of Learning

1. Introduction

> I should note that members of my research group at Berkeley expressed some surprise when I listed transfer as a separate arena of study. They asked, 'Isn't transfer part of learning?' It is, of course. But, the issue of transfer is so important that it deserves attention on its own. (Schoenfeld, 1999, p. 7)

This study focuses on learning to transfer. It is based on an examination of the question of transfer of learning within the context of a vocational degree offered by a distance learning institution. It pays particular attention to the experience of the individual learner in the transfer process. The learner is seen as actively constructing the learning and transfer experience. What were the experiences of learners who enrolled in formal education for vocational reasons? Who were these learners? What did they bring to the learning experience? What did they learn? How did they learn to transfer or adapt to real world situations what they had learned in the distance education programme?

The problem in context

Governments, industry and individuals are investing significant time, money and other resources in education and training, and this investment is increasingly being spent on work-related programmes. The challenge is to ensure that such programmes develop the capacity of workers to adapt or transfer skills, knowledge and understanding to new contexts. These new contexts may be workplaces or education and training environments.

Generic skills and transfer

In recent years, interest has also been directed at the notion of 'transferable' skills, and in particular at those that have been variously described as 'essential', 'core', and 'generic', such as problem solving, teamwork,

communication, thinking, and, importantly, the skills of learning to learn. These skills are of interest in the study of transfer and raise two questions. Firstly, is the transfer of generic skills from one context to another domain-specific or do these skills transfer more generally across domains? Secondly, what part do generic skills play in any transfer of specific skills and knowledge? For instance, when a learner seeks to adapt learning (such as how to set up a database) to a new situation, does this necessarily involve generic skills such as problem solving, communication and learning to learn? The paper discusses both general transfer (the transfer of generic skills and knowledge) and the role generic skills play in the process of transfer. Because it is assumed that the learners who contributed to this study enrolled because they wanted to learn to transfer skills, knowledge and attitudes gained from the programme, special attention is paid to the concept of learning to learn.

Significance of the research

This research is significant for a number of reasons.

Naturalistic study

Firstly, this research is based on a naturalistic study exploring the ordinary experiences of students who had enrolled in a Bachelor of Business, and how they went about learning, and transferring what they had learned to their everyday work. The students had diverse backgrounds and employment situations. Such a study is rare within transfer literature. In the past, research on transfer of learning has been conducted in terms of measuring whether or not transfer has occurred, or in relation to instructional design and teaching for transfer. Much of the research has been conducted in laboratories or in contrived situations. Typically, when the research has been conducted in naturalistic settings, this has been within an organisational training setting.

Therefore, this study does break new ground. The people who volunteered to participate in it are a diverse group in terms of educational and occupational backgrounds, ages, gender, ethnicity, and geographical location. Those who are employed work in a wide variety of workplaces and industries.

Higher education

Secondly, this project is significant because it is a study of transfer of learning from a higher education programme — that is, from a Bachelor of Business degree — to real life situations. Previous research of transfer of learning in naturalistic settings has often involved children and transfer of learning within a classroom setting. Studies of transfer of training have examined the transfer of a specific skill or procedure from a company's in-house training programme to the job. Leberman (1999) conducted a case study of a diploma programme offered by Victoria University for caseworkers employed by the Accident Compensation Corporation (ACC). Although it was a university programme, the participants were all employed in a single organisation, in similar roles, managing cases. Similarly, studies have been conducted comparing the effectiveness of problem-based medical education with conventional lecture-based training. Such studies have focused on instructional design and assessment outcomes. Transfer has been measured in relation to performance within the programme setting.

Measurement of transfer some time after learning

Thirdly, one of the criticisms of transfer of learning studies has been that the assessment of transfer has taken place prematurely, for example, at the conclusion of the education and training programme or immediately afterwards. In contrast, this study was conducted at least four months after participants had completed the selected course.

Distance education context

Fourthly, the research is significant because it is a study of transfer of learning from the perspective of learners within the context of a distance education programme. Distance education and distance learners are absent from the literature on transfer of learning.

Perspective of learners

Finally, in a typical transfer study, the researchers isolate specific knowledge or skills for the test of transfer; in this case study, it is the participants who identify what they attempted to transfer from their courses to real situations.

Contribution to understanding an enduring problem

The problem of transfer of learning is not a new one. Research on transfer of learning has been conducted since the turn of the century. However, the literature is contradictory and much of the early research has been criticised for relying on simple tasks, being artificial, and having little bearing on authentic workplace practices and applications. A common conclusion in the literature has been that little transfer of learning occurs from one context to another and that what does occur relates to specific skills or simple concepts and where there is considerable overlap between two contexts. There is a counter literature grounded in cognitive psychology, which has provided both a theoretical and an empirical basis for a general and complex transfer.

Developing an understanding of transfer is crucial if educationalists wish to improve the effectiveness of education and training initiatives aimed at increasing workforce skills. This involves understanding learning activities that promote transfer. Such an understanding needs to be underpinned by an understanding of the cognitive and situational dimensions of learning and transfer.

Efforts to develop a skilled and adaptable workforce have not just directed attention to what is taught/learned but also to how the workforce accesses that learning. For a combination of reasons, these have led to an increased interest in, and provision of, open and distance education and training. There has been a scarcity of research on open and distance education in general and on the question of transfer of learning from open and distance learning.

This study draws together the issues of

- open and distance provision of workplace education and training

- transfer of learning

- 'learning how to learn'

- the learner's experience of learning transfer.

This paper contributes to the conceptualisation of transfer of learning, and to the theorising of distance teaching and learning. It is hoped that it will also lead to the enhancement of the provision of effective learning opportunities in the field of adult education and training and, in particular, in the sphere of workplace learning. Such a contribution will have significance in a number of domains: workforce development; workplace learning; open and distance learning; and lifelong learning.

Research aims and objectives

The aims of the research project were to look at transfer of learning within the context of a vocationally oriented degree programme offered by distance education, and to develop an understanding of how transfer of learning may be facilitated in that context. The objectives of the research were to

- develop an understanding of the nature of transfer of learning

- develop an understanding of transfer of learning within the context of a distance education programme: The Open Polytechnic's Bachelor of Business degree

- explore transfer of learning from the perspective of students in the Bachelor of Business programme

- identify the factors which facilitated transfer of learning from the courses in the Bachelor of Business to workplace settings

- identify barriers to transfer of learning from the Bachelor of Business to workplace settings

- consider the implications of the above for designing and delivering distance education courses that nurture transfer of learning.

Limitations and delimitations of this study

There are a number of limitations to the study. These include the following:

- that this study operates within the context of a distance education programme and no comparative study was carried out with a conventional business degree cohort

- that the participants volunteered and some may not have been in relevant occupations

- that the evidence of transfer relies on participants' self-reports.

These limitations are discussed in turn.

Limited to distance education

The research was carried out with a group of students who were studying at a distance. The scope of the project and questions of access, resources and time meant that no comparative study was conducted with a similar group in a conventional business degree programme.

Reliance on self-reports

In the literature, there are criticisms of self-reporting as a measure for transfer (Baldwin & Ford, 1988). This research is a study of the learner's experience of transfer of learning. The learners began their participation in the study after the completion of the selected courses. This meant relying on their own recollections and perceptions of what their expectations, motivations, and learning needs were prior to the course. We have no information from their peers, their managers or others about their performance prior to, during, and following the courses. While the initial proposal was being shaped, consideration was given to seeking permission and referral to managers and/or peers from the learners. Such action was not pursued for a number of reasons, including the following:

- that it might increase the reluctance of students to participate in the study

- that it might constrain participants in their interviews

- that it would require considerable resources to identify and contact those able to comment on the learner's performance

- that it would increase work and costs to interview additional people spread over a wide geographical area.

Given these limitations it was appropriate to focus only on the perspective of the learner.

Organisation of the document

This paper is organised as follows:

Chapter 1   Introduction

Chapter 2   Definitions and frameworks.

Chapter 3   Theoretical and empirical literature

Chapter 4   Distance education as a way of integrating learning and living

Chapter 5   Methodology, context and individuals

Chapters 6–7   Results and discussion of data from a survey of learners

Chapters 8–11   Interviews with learners

Chapter 12   Summary: key findings are discussed, theoretical implications are outlined, and suggestions made for practitioners. In particular, emphasis is given to the learning practices that promote transfer. Issues for future research are identified.

2. Transfer: Definitions and frameworks

Introduction

The neglect of transfer as an area of study has contributed to confusion over definitions and over its theorisation. In fact, there are no generally accepted definitions of transfer or of the concepts that would clarify and operationalise it.

It has been common to link transfer with job-specific training. Within the literature, the terms 'transfer of learning' and 'transfer of training' are used in a variety of ways, but commonly they are used interchangeably (Cormier & Hagman, 1987; Leberman, 1999). This may be a contributory factor in the neglect of transfer despite its centrality to learning and education. Royer (1979, p. 53) suggested that the association of transfer with what many regarded as the narrow and restricted concept of training led to its neglect.

Paired opposites: Positive and negative transfer

Within the literature there are a number of distinctions which assist in understanding concepts and theory of transfer. These include the distinction between positive and negative transfer (Baldwin & Ford, 1988; Misko, 1995; Osgood, 1949). When learning in one context improves learning or performance in another context it is *positive transfer*. For example: if someone learning a database package has background knowledge of databases or has used a different database package, they are likely to benefit in terms of time taken to learn the package; and the previous experience of learning algebra facilitates learning statistics.

Negative transfer occurs when previous learning or experience inhibits or interferes with learning or performance in a new context. Bransford et al. (2000) suggest that previous experiences or learning could hinder the learning of new concepts. He provides the example of where the prior experience of learning to walk upright on what appears to be a flat earth hinders the learning of concepts in physics and astronomy.

Simple low level transfer versus complex high level transfer

Many of the distinctions are ways of defining the level of complexity of the transfer. Fogarty et al. (1992), drawing on the work of Salomon and Perkins (1989), used 'low road' and 'high road' transfer to develop a typology of transfer. Below (**Table 2.1**) is the table they developed, which aptly illustrates the dichotomy that exists in the conceptualisation of transfer. The dichotomy divides those concepts related to low level, simple transfer and high level, complex transfer. They distinguished between levels of transfer, arguing that little or no transfer is involved in retaining facts; that learners who engage in comparing, reasoning, and generalisation are transferring learning; and that those who idealise, imagine, and predict are demonstrating the highest level of transfer, which is 'far reaching high road' transfer.

Table 2.1: Dichotomy in transfer

Low level	High level
simple	complex
near	far
horizontal	vertical
automatic	mindful
low road	high road
similar	cued
spontaneous	guided and scaffolded
practised	mediated

Near and far transfer

A number of researchers have distinguished between near and far transfer, that is, in terms of the closeness or distance between the original learning and the transfer task. For instance, learning to shift gears in a truck is an example of near transfer for someone who has already learned to shift gears in a car (Misko, 1995) as is the situation when students face similar questions in tests to those they have practised for homework (Klausmeir, as cited in Bransford, 2000)). Far transfer is used to refer to the transfer of learning from the school

context to a non-school context. Using skills learned in mathematics, such as taking care and checking all alternatives, in the game of bridge is an example of far transfer (Misko, 1995).

Horizontal and vertical transfer

While Fogarty et al. (1992) and Perkins and Salomon (1996) use the terms horizontal and vertical transfer, Robert Gagne (1970) distinguishes between lateral and vertical transfer. Gagne's distinction grew from his work on learning hierarchies and his project to design instruction that maximised learning and transfer. He defined lateral transfer as 'A kind of generalization that spreads over a broad set of situations at roughly the same complexity' (as cited in Royer, 1979, p. 54). It was the use of prior knowledge, or what he refers to as 'known knowledge', in a new setting with a similar level of complexity to the original setting, for example, a student recognising that the fractions learned about in school are relevant to the splitting up of a jointly owned collection (Royer, 1979, p. 54). In contrast, vertical transfer involved the use of prior knowledge in the acquisition of more complex knowledge of which the prior knowledge was part; for example, the skills in writing letters are used in writing words (Bransford et al, 2000); or the skills of multiplication and subtraction are used in the skills of long division (Royer, 1979). Ellen Gagne et al. (1993) identify the degree of overlap between the original skill and the target skill as the basic condition for facilitating lateral and vertical transfer: '... the greater the overlap, the greater the transfer will be' (p. 243). Royer suggests that lateral transfer was neglected for a number of reasons, including educators' lack of interest in transfer of learning to the out-of-school context. As well, the traditional emphasis on stimulus elements did not lend itself to the analysis of complex situations with difficult-to-control elements.

Automatic/low road versus high road/mindful

Fogarty et al. distinguish between automatic and mindful transfer. When an individual responds spontaneously within a transfer situation that is very similar to the learning situation, this is automatic transfer. For instance, learning to read English in one class means that the learner will automatically read English language in another similar English language context. With time and practice, the transfer effect will extend or 'reach out' over the low road. In

contrast, mindful, high road transfer is deliberate, involving conscious thought and intellectual effort, and occurs in situations where there are significant gaps or differences between the original and the transfer situations.

The concepts of 'similar' and 'cued' differentiate between the spontaneous learned response and the conscious 'effortful' response in a situation where the learner recognises the relevancy of learning but at the same time is aware that they need to think through what is required before application. In the Bo-Peep theory of transfer, low level transfer is similar, spontaneous and can be practised for. In contrast, high level transfer, while it may be cued, needs to be 'shepherded for', that is, guided, scaffolded, and mediated for.

General and specific transfer

Detterman (1993, p. 5) considers the transferral by the learner of the contents of learning to a new situation as specific transfer. This differs from non-specific or general transfer, which involved, for example, the transfer of strategies to maintain motivation. Detterman dismissed non-specific transfer, arguing that it rarely occurred and that the focus should be on teaching the specific skills and knowledge that would be used, not on teaching skills that learners would then have to work out how to utilise.

The problematic issue for transfer of learning is whether general transfer occurs. There is a growing acceptance among researchers and practitioners that specific skills, knowledge and attitudes do transfer to similar contexts. The problem lies with transfer of more general or generic skills to new contexts, for example, problem-solving and communication skills; the application of legal knowledge; and, of particular interest to this thesis, the skills of 'learning to learn'.

Baldwin and Ford's model for understanding the transfer process

Baldwin and Ford's (1988) critical review of the transfer of training research has been hugely significant to subsequent research and is much cited. They defined transfer in terms of the effective use in job contexts of knowledge, skills, and attitudes gained from a training programme. 'For transfer to have occurred, learned behaviour must be generalised to the job context and maintained over a period of time on the job' (p. 63).

Baldwin and Ford's model was based on the view that transfer was a process. The process involved training inputs, training outputs and conditions of transfer. Their audience and the settings they were concerned with were from the field of organisational training. Within that context, training inputs included trainee characteristics, training design, and work-environment characteristics. These factors were modified and used in the design of the research instruments in the current research.

Training outputs and conditions of transfer

Baldwin and Ford defined training outcomes as both the original learning during the training programme and the retention of that learning after the programme. Conditions of transfer include the generalisation of what is learned to the job context and the maintenance of that learning over time. Baldwin and Ford's review looked at training input factors in terms of how they impacted on training outcomes of transfer. The types of input they identified will be briefly described.

Training inputs: Trainee characteristics

The trainee characteristics identified by Baldwin and Ford were ability, personality and motivation. Ford and Weissbein (1997) expanded the conceptual framework for trainee characteristics to include prior experience and its impact on the training experience. They modified the concept of motivation to specifically emphasise learner goal orientation. Also, they contrasted mastery goal orientation with performance goal orientation. These are equivalent to the concepts of intrinsic motivation and extrinsic motivation.

Training inputs: Training design

In the transfer process, the key elements of design were the use of principles of learning in structuring the design; the sequence of learning; the sequence of the content; and the relevance of the content to the job.

The 1988 review identified four common ways in which principles of learning were incorporated into training design:

- **Identical elements** (in the tradition of Thorndike): based on identical stimulus and responses in the training and transfer settings.

- **General principles** (in the tradition of Judd): where trainees are taught the general principles underlying application and skills.

- **Stimulus variability:** Advocates of this approach argue that the likelihood of transfer occurring is enhanced when trainees are exposed to a variety of examples rather than a single example.

- **Conditions of practice:** Design decisions which relate to things such as

  - massed or distributed training

  - whole or part training

  - feedback

  - overlearning.

Ford and Weissbein reported that there is evidence to support the effectiveness for transfer of strategies such as discovery learning, error-based learning, and training in metacognitive skills.

Training inputs: Work environment factors

These include support from superiors, peers, or others; and both barriers and opportunity to apply the training on the job.

Baldwin and Ford's framework for understanding transfer is based on six linkages. For instance, training inputs impact on both training outputs and conditions of transfer. A trainee needs to have the motivation to acquire the skills and to use them on the job. The training input in this instance is the trainee characteristic of motivation, which in turn impacts on the training output (learning and retention), which then affects the conditions of transfer (generalisation and maintenance). The model influenced the overall research design for the current study as well as specific aspects.

The contribution of Ford and his colleagues was in terms of providing a framework for looking at transfer, in particular at the transfer of training. It involved three components — training inputs, training outputs, and conditions of transfer. In the current study these are reconstructed as a transfer of learning model within a distance education context. They become learning inputs, learning outputs, and conditions of transfer.

Table 2.2: Transfer of learning model

Before the course	During the course	After the course
Learning inputs	Learning inputs	Conditions of transfer
Learner characteristics:	Similarity of learning and work/other situations	Generalisation to the job context
• Motivations	Reflection similarities and differences of above	Maintenance of learning over time
• Previous learning and experience	Acquisition of underpinning theory and knowledge	Integration of learning experiences
• Disposition	Opportunities to practise	Adaptation to work situations
Instructional design:	Experiential learning	Role of others
• General principles	Authentic learning experiences	
• Theory and knowledge	Role of others	
• Approach to teaching and learning (sequence of instruction/problem-based / project-based)		
• Varied examples		
• Assessment approach		

Haskell's 11 principles for effective learning and transfer

Haskell (2001) joined the growing chorus arguing for a reconstruction of approaches to learning and transfer. He suggested that significant transfer of learning requires more than a focus on techniques, skills and methods; instead it needs to be conceptualised as a way of thinking and knowing. Perkins and colleagues have also suggested for some years that thinking skills play a crucial role in general and complex transfer (Fogarty et al., 1992; Perkins, 1988; Perkins, 1995; Perkins & Salomon, 1996). For Haskell, the 'spirit of transfer' is crucial to achieving significant and general transfer: 'The transfer spirit is a psychological,

emotional, and motivational disposition toward deep learning' (p. 117). Interestingly, the expression the 'spirit of transfer' was used earlier by Fogarty et al. (1992). Haskell's specific contribution is in identifying 11 principles involved in effective learning and transfer. These principles are useful both from a practitioner viewpoint and in terms of discussion of transfer within authentic workplace settings. According to Haskell, these principles need to be adopted by educators and learners if transfer is to move beyond simple transfer. These principles require the learner to have

- a large primary knowledge base specific to the transfer area

- some knowledge in subjects outside that domain

- an understanding of what transfer of learning is and how it works

- an understanding of the history of the transfer in the area

- motivation or, more specifically, 'the spirit of transfer'

- an orientation to think and encode learning in transfer terms

- the benefit of support systems or cultures of transfer

- a theoretical understanding of the transfer area

- a history of hours spent in drill and practice

- sufficient time for the learning to incubate

- observed and read the works of people who are exemplars and masters of transfer thinking.

3. Learning about transfer: Lessons from the literature

Introduction

The contemporary study and conceptualisation of transfer have been heavily shaped by work which took place in the early part of the twentieth century. Transfer of learning has been an important topic of study in a number of disciplines, including psychology, education, and management. Within each of these fields, transfer of learning was theorised and studied in diverse ways within schools or sub-disciplines which were, to some extent, influenced by the prevailing theories of their times.

Structure of the chapter

The third chapter places this study within the historical and contemporary literature of transfer of training. It includes

- a historical overview of the study of transfer

- a discussion of the conceptualisation of transfer that has occurred to account for the nature and degree of transfer

- a discussion of teaching for transfer

- recent interesting developments in the study of transfer.

It will also advance the case for looking at transfer from the perspective of the learner, and within everyday workplace contexts.

Historical overview

The roots of the study of transfer are in educational psychology and behaviourism. Behaviourism is still a major influence on the study, theorisation, and instructional strategies of transfer of learning. Behaviourism was joined by cognitivism and, in particular, information processing approaches, as a key approach to the theorisation of transfer. From the late nineteen-sixties until the late nineteen-eighties, humanist approaches to education (Maslow, 1976; Rogers, 1969) had a perverse impact on the study and theorisation of transfer. Typically, studies of transfer of learning had been conducted in laboratories and

the learner was a tool or a vehicle for the studies. To those interested in fostering self-actualisation in learners, such studies were seen as irrelevant and even distasteful. The association of transfer with 'training' also had negative connotations 'Training' was seen as relevant for monkeys, whereas teaching or educating were seen as relevant for people.

The study of expertise focusing on both novices and experts has been a fruitful ground for the advancement of the theory and study of transfer. Constructivist learning and situated learning approaches are emerging as powerful influences. Such approaches include experiential learning, problem-based learning, and an emphasis on 'thinking'.

Researchers and theorists have grappled with a number of persistent conceptual and methodological problems without achieving resolution. Singley and Anderson (1989) identified four recurring themes in the literature of transfer:

- general versus specific transfer

- meaningful versus rote learning

- analytic versus non-analytic approaches to the study of transfer

- lateral versus vertical transfer.

They saw the specificity of transfer and analogical studies as being of significant interest.

The doctrine of formal discipline and general transfer

In the late nineteenth century and into the early twentieth century, the doctrine of formal discipline (or the faculty view) was common. The doctrine was a crude expression of general transfer. It was based on the faculty view of the mind, which was that the mind was made up of a group of faculties, such as observation, attention and reasoning. The doctrine of formal discipline held that

- study disciplined the mind

- the mental improvement resulting from learning was not specific to those studies but was generalised to other domains

- the mind was a unit and whatever strengthened one faculty, such as reasoning, strengthened other mental faculties

- greater benefits accrued from studying what were regarded as more intellectually challenging subjects, such as Latin and mathematics, than subjects such as geography or art.

Psychology was the nursery for studies of transfer and for the development of learning theories in general and transfer of learning theories in particular. From the late nineteenth century onwards psychology and, to a lesser extent, education were influenced by positivism and behaviourism.

Behaviourism

The early psychological researchers wanted psychology to be recognised as a science. As scientific researchers they focused on observable behaviour and on the interaction of an organism with its environment. Animals were frequently used in the studies: Thorndike's cats; Pavlov's dogs; and Skinner's rats. Behaviour was a result of the organism's learning. Learning was seen in terms of stimuli and responses. Through these responses, associations were made. There was little recognition or interest in the inner world of the learners, their mental processes, or their minds. Learning was seen as a passive rather than an active process. What was 'taught' was what was 'learned', that is, objective knowledge. Such assumptions were to have a lasting effect on the study of transfer.

Educational psychology was shaped by behaviourism. Thorndike and his colleagues who contributed to the growth of educational psychology vigorously challenged the doctrine of formal discipline. Thorndike derided the doctrine, describing it as treating ability as 'something which can be stored in a bank, to be drawn at leisure' (Thorndike, as cited in Cox et al., 1987, p. 4). The early research on transfer set out to test the assumptions of formal discipline and to ensure that decisions about the school curriculum were based on scientific evidence. It also established a tradition of examining assumptions about learning and transfer through rigorous research.

Thorndike's theory of identical elements

Thorndike's most influential contribution to transfer research was his 'theory of identical elements', that is, the theory that training in one activity or function would only transfer to another if it shared common elements. In a psychology textbook, Thorndike asked his readers:

> Does the study of Latin or mathematics improve one's general reasoning powers? Does laboratory work in science train the power of observation for all sorts of facts? Does matching coloured sticks educate the senses for all sorts of discriminations? (Thorndike, 1963, [originally published in 1913])

The work of Thorndike and Woodworth and their colleagues effectively discredited the doctrine of formal discipline. The school curriculum tended to become more specific, as research evidence mounted against transfer of learning from one subject to another.

Despite the success of Thorndike's research, it did not disprove the notion that a classical education broadens the mind; what it did prove was that there was not a significant correlation between marks in Latin and marks in other subjects. Thorndike examined marks rather than seeking to identify what the benefits of learning Latin were and how these benefits transferred to other situations.

The theory of generalisation and meaningful learning

Not all researchers accepted the theory of identical elements. Judd, a contemporary of Thorndike, put forward the theory of generalisation. According to this theory, for transfer to occur, the original learning needed to be meaningful to the learner. In order to generalise the learning, the learner needed to have a common abstract representation of the two tasks. For Judd, this meant that the learner had abstracted for themselves the general rules or principles. One of Judd's experiments involved two groups of boys throwing darts at an underwater target. The treatment group was taught the principle of refraction. In the initial situation, the group taught the principle of refraction did not outperform the control group. However, when the depth of the water was adjusted, the control group took the same time to adjust and made a similar number of errors to the number they had made originally; however, those taught about refraction adjusted rapidly to the new situation (Judd, 1908; Singley & Anderson, 1989).

Detterman was critical of the design and Judd's conclusion, asserting that teaching a group a strategy and telling them when to apply it was not transfer: 'It does not show anything approaching spontaneous transfer' (p. 9). These early studies of transfer have been criticised for their lack of rigour (Detterman, 1993; Ellis, 1965). Criticisms include the

- failure to establish what had been learned from the initial task

- lack of clear measurement criteria

- failure to be specific about what was to be transferred

- potential for bias as the instructor usually conducted the test of transfer

- trivial or nonsensical nature of tasks chosen.

The enduring influence of the theory of identical elements

The theory of identical elements (Thorndike & Woodworth, 1901) is based on a stimulus-response approach to learning. Stimulus-response and other behaviourist approaches successfully challenged the earlier approaches to learning such as 'formal discipline' and other 'mentalistic' approaches (Swenson, 1980). The theory has had enduring effects on how transfer has been theorised, studied, assessed and taught for. Those influenced by the theory of identical elements tend to believe that transfer is rare, difficult to achieve, and specific rather than general.

Cognitive psychology and the study of transfer

From the 1960s onward, information processing models of learning mirrored the growing sophistication of computers. The models depict the mind as a computer. The basic architecture of information-processing models was thus input-process-output. The models included components for encoding, storage, and retrieval. Information is inputted, the mind processes it by encoding it in a form which can be stored in the memory, and it is later retrieved and applied. The basic models were useful for conceptualising learning of declarative knowledge but could not adequately account for other forms of knowledge. Researchers, using an information-processing approach, explained the theory of identical elements in terms of the training and transfer situations sharing similar features. In this explanation, information acquired during training is encoded with stimulus cues, which will be recognised and retrieved (the response) in the transfer context. Such explanations account for near, simple, or low road transfer, but they fail to account for transfer in novel situations (Smith, Ford, & Kozlowski, 1997).

 The current study focuses on the transfer of learning to new and different situations. As such, transfer is a dynamic and complex phenomenon driven by cognitive processes. There is a growing convergence among theorists about the explanations of what happens cognitively for a learner encountering a new problem or situation, that is, a 'new learning situation' (Bransford & Schwartz, 1999; Cree et al., 1998; Haskell, 2001; Smith, Ford, & Kozlowski, 1997). These explanations utilise understanding of different types of knowledge and of how those types of knowledge are used and become meaningful to individuals. The term *knowledge* is used here in a broad sense and encompasses different types of knowledge, including

- conceptual knowledge, also known as declarative, propositional, replicative, and 'knowing that' knowledge

- procedural knowledge, also known as applicative, and 'knowing how' knowledge

- strategic knowledge, also known as 'knowing why' knowledge

- tacit knowledge, also known as personal knowledge.

An individual's existing knowledge is made up of all these types of knowledge. When the learner enters the new situation, they bring with them a unique collection of knowledge derived from previous experience and learning. Bringing the existing knowledge to bear on the new situation is essentially transferring learning (the unique collection of knowledge) to the new situation, and this requires new learning. The acquisition of the new learning involves the reconstruction of existing knowledge and of the newly encountered knowledge. This reconstruction occurs through cognitive processing, and involves generalisation and abstraction. Generalisation and abstraction include the generation of new production rules.

Schema theory and transfer

This section builds on information-processing approaches to examine schema theory, which plays an important role in a number of current approaches to the theorisation of transfer.

When a learner faces a problem or new situation, they do so with their own existing representations or models of the world. These representations or models were constructed by the learner within earlier experiences or learning situations, and they may be seen as the learner's mental explanations or descriptions of the world. They may be explicit, where the learner is aware of them and can articulate them, or they may be tacit, where the learner is unaware of their precise form and would have difficulty verbalising them. The learner encountering a new situation makes sense of it by, 'anticipatory schema' (Cree at al.). The learner's understanding of the new situation is dependent on their anticipatory schema, that is, what they already know, their existing models or representations of the world. Transfer of learning occurs when connections are made between existing knowledge, the new situation and the application of the existing knowledge. Cree et al. argue that metacognition (awareness of one's own thinking and learning processes) is also required to modify existing schemas. Positive transfer of learning is dependent on the learner's making appropriate connections between existing knowledge and knowledge of the new situation. Thus, how the existing knowledge is

organised, retrieved and processed has significance for transfer. The transfer problem arises when learners fail to modify schemas, that is, to connect relevant existing learning to new situations. The way in which knowledge is organized through the teaching process is of key importance in terms of developing the learner's own patterns of representing knowledge, and in enabling recall and retrieval strategies (Cree et al., 1998, p. 12).

Problem solving and transfer

Problem solving has provided fertile ground for exploring the factors that influence learners in making or failing to make connections between existing knowledge and the knowledge required to solve the new problem. Problem-solving approaches appear to be effective in promoting transfer. Research suggests that engaging learners in authentic problem-solving activities fosters a deeper orientation to learning, and to more complex ways of encoding and organising knowledge, which in turn enhances access and retrieval of that knowledge within diverse situations.

It should be noted that problem-solving approaches influenced the design of The Open Polytechnic Bachelor of Business courses. In the transfer of learning literature, problem-solving approaches crop up in two, linked spheres: firstly, in the study of cognitive processes in relation to learning and transfer (for example, Bransford et al., 1990); secondly, as an instructional strategy to enhance learning and transfer (for example, Albanese & Mitchell, 1993). Laboratory studies involving problem solving have yielded some important findings and insight into the transfer of learning. Interestingly, adopting a problem-based learning approach to learning has been shown to facilitate transfer.

Information-processing theories had such an impact on psychology and performance-related theorists that the study of cognitive skill was neglected from the 1960s onwards. However, in that time, work continued on the study of analogical transfer (learning by example) in problem solving, for example, algebra word problems. In analogical problem solving, the learner is first provided with a problem and its solution (the source or example). Later, a similar problem is presented to them. In order to solve the problem, the learner maps the solution to the first problem onto the new or target problem. Several problems, such as Missionaries and Cannibals, The Tower of Hanoi, and Duncker's radiation problem have become classics and have contributed to the view that general transfer is rare.

Situated cognition and transfer

Another approach to learning or knowledge acquisition within the cognitive field is that of situated cognition. Research on analogical problem solving stresses the mechanisms of transfer, whereas research on situated cognition and transfer stresses context. In what could be construed as yet another version of the theory of identical elements, the latter research argues that the setting in which learning takes place influences the ability to transfer what is learned to other situations. Greeno et al. (1993) make a useful distinction between empiricist and rationalist accounts of transfer. Both accounts share the assumption that transfer depends on the cognitive structures acquired in the original learning situation, which in turn carry over to the transfer situation. Where they differ is that the empiricist is looking for the overlapping elements or components of the two situations, while the rationalist is looking for shared structure or representation that the learner carries from the original situation to the transfer situation (Greeno et al., 1993, p. 161). Note that both accounts are consistent with Anderson's revamped theory of identical elements.

Among the proponents of situated cognition, there are some differences in focus. Those such as Lave (1988), and Pea (1989) see learning as essentially social. Knowledge is constructed in social activities:

> Transfer, in this view, depends primarily on a person's having learned to participate in an activity in a socially constructed domain of situations that includes the situation where transfer can occur. Transfer depends on structure in the situation which is primarily socially defined, and that has been included in the person's previous social experience. (as cited in Greeno et al., 1993)

Implications for teaching and learning

What the proponents of teaching for transfer approaches share are the beliefs that it is rare for transfer to just happen and that transfer will occur if it is taught for. Thorndike examined the academic results of thousands of students to conclude that success in Latin did not transfer to success in other academic subjects. But Fogarty et al. (1992) suggest, 'Latin may not have transferred because Latin had not been taught to cultivate transfer'. They suggest that transfer is possible from both general and specific learning situations, provided it is shepherded or taught for.

The contestation that occurred almost a century ago between the advocates of formal discipline and the proponents of the theory of identical elements has been mirrored in more contemporary debates about teaching for transfer. Division continues between those who believe that the achievement of transfer

is best served by generic, generalisable teaching and those who believe that it is more likely to occur as a result of a content-specific approach (Fogarty et al., 1992). One proponent, who is in the latter side of the divide, is Detterman (1993), who suggests that teaching for transfer approaches are variants of the doctrine of formal discipline. He caustically asks how, if transfer cannot be produced in the laboratory under controlled conditions, it can be developed in a classroom. Detterman, on the grounds that transfer is very difficult to achieve and is usually specific, not general, argues for teaching to be focused on specifics: 'The lesson learned from studies of transfer is that, if you want people to learn something, teach it to them. Don't teach them something else and expect them to figure out what you really want them to do' (Detterman, 1993, p. 21).

Ellis (1965) argued that to teach for successful transfer teachers needed to do more than just have students think about transfer and which features of a task and its solution might be generalised to other situations. Teachers and students needed to have an explicit understanding of the factors that influence transfer and of the criterion behaviours required. He suggested that teachers could structure the initial learning situation to include

- similarity between the teaching and the transfer situation

- adequate experience of the initial task

- diverse examples to support the concepts and principles being taught

- labelling or identification of important features of the task

- good understanding of general principles.

Shepherding transfer of learning

Perkins and Salomon (1990) used a nursery rhyme to illustrate the competing theories of teaching for transfer. First, there is the 'Bo-Peep' theory of teaching for transfer, where transfer takes care of itself: 'Leave them alone and they'll come home, wagging their tails behind them'. Fogarty et al. (1992) suggest that this is the everyday approach to instructional practice: 'Teach the content, give students practice that is both immediate and spread over time and transfer of learning is sure to follow' (p.xv).

Next, the 'Black Sheep' theory of transfer posits that transfer does not happen: 'Over time transfer has become not only the lost sheep, but the black sheep of the educational community' (Perkins, as cited in Fogarty et al., 1992). Just as the Black Sheep of the family is often not mentioned, a perusal of contents pages in educational texts demonstrates that the topic of transfer is a common omission.

Finally, there is the 'Good Shepherd' theory of teaching for transfer (Perkins & Salomon, 1990). This theory grew out of Perkins' and colleagues' work on thinking skills. Transfer will happen with mediation (Beyer, 1987). 'When transfer is provoked, practised, and reflected on, transfer is easy to achieve' (Fogarty et al., 1992, p. xvii). Salomon and Perkins (1989) differentiated between 'low road', that is, simple, automatic transfer, which could be achieved with ease, for example, changing from driving a car to driving a van, and 'high road' transfer, which is abstracted and involves higher level thinking skills. The teaching strategies that support low road transfer were designated by Perkins as 'hugging'. They 'hug close to' the situations the learning will be required for; that is, the learning and transfer tasks are similar. They demonstrate the similarities and connections, providing examples and practice sessions. The teaching strategies that support high road transfer are characterised as 'bridging'. High road transfer grows out of deep learning, where the learner has learned concepts and principles and in order to carry out a task must use higher order thinking skills (Misko, 1995; Perkins & Salomon, 1996; Thomas et al., 1992). Bridging strategies are similar to scaffolding; they mediate the processes of abstraction and connection-making, often using approaches such as analogies and metacognition. The teacher provides concepts, principles and encouragement to enable learners to generalise (Fogarty et al., 1992; Nisbet, 1993; Perkins, 1988; Perkins, 1995).

Information-processing approaches to teaching for transfer

This section provides a brief overview of an information-processing approach to teaching for transfer.

Sternberg and Frensch (1993) identified mechanisms that could facilitate successful transfer through instruction. The mechanisms are compatible with other cognitive approaches such as those of Singley and Anderson, Perkins and colleagues, and Bransford and his colleagues at Vanderbilt. These mechanisms include encoding specificity, knowledge organisation, practice in discriminations, and developing a mental set for transfer. They argue that teachers need to incorporate encoding specificity into the design of learning situations. It is not enough for the teacher and learner to want transfer to occur;

transfer needs to be actively designed for. Firstly, learners need help to encode information in multiple contexts in order to increase the likelihood that they will be able to retrieve the information when it is relevant.

The second and linked mechanism in this approach is the organisation of knowledge. The learner needs to be helped to make the connections between what is being learned in a particular course and what they are learning in other courses or in an external context, that is, to see 'why and how what is to be learned is important to the students' lives' (Sternberg & Frensch, 1993, p. 35).

The third mechanism is for teachers to help learners make the discriminations that they will require in the future. It involves assisting the learners to identify what is specific to a situation, what is general to these types of situation, and what are the underlying assumptions. For instance, in teaching a word-processing package, a teacher would instruct the learners about which features were specific to that package, which were common to all word processing packages, and what the underlying principles of word processing packages were.

The fourth mechanism is for the teacher to nurture in the learner a mental set for transfer. In contemporary education, the manner in which subjects are taught independently of one another and, in fact, in isolation both from other subjects and from the 'real world' works against transfer. The teacher needs to establish an expectation that what is learned will be transferred and that students will look for connections to other subjects and to real world applications.

Teaching for transfer using problem-based approaches

Those teachers using problem-based approaches such as cases or projects need to address the challenges of over-contextualisation. The Cognition and Technology Group at Vanderbilt (Bransford and colleagues) make use of techniques such as using the same material in multiple contexts; having the students work through 'what if' problem scenarios which provide a basis for thinking through the effects of varying the problem parameters; and altering the nature of the problem so that students think about a class of problems versus a single case. Research shows that studying problems from multiple perspectives increases the flexibility with which people can handle new situations.

Linked to the problem of over-contextualisation is the need for teachers to assist learners to develop appropriate abstract representations of problems and solutions. Being able to reduce problems and solutions to suitable abstract representations enhances positive transfer; however, inappropriate representation may result in negative transfer. So learners need to know the settings in which their solution will work and the settings in which it will not; for example, a fixed cost formula does not work in situations where the costs are not fixed.

Metacognitive approaches have been shown to increase transfer. These approaches include helping students to monitor, reflect on, and improve their strategies for problem solving and learning. Bransford and Schwartz (1999) also emphasise that they are not general skills that a person learns 'once and for all' but that they also require a well-differentiated knowledge of the particular task.

Cognitive apprenticeships

In the nineteen-nineties the concept of cognitive apprenticeships, as developed by Collins and colleagues, became popular in the field of education, particularly within the context of vocational education and training (Brown et al., 1989; Collins et al., 1989). This approach adapts the traditional craft apprenticeship model to one based on the development of cognitive, rather than psychomotor, skills. The cognitive apprenticeship approach is a staged approach, in which the 'apprentice' develops from being a dependent observer to an independent practitioner. The first stage is essentially that of *modelling* and the expert/ teacher shares his/her own internal thought processing with the apprentice/ learner. The process is one of progressively moving through stages of *coaching*, in which the expert/teacher provides guidance/advice/feedback; *scaffolding*, where the apprentice/learner carries out the task with support from the expert/ teacher; and *fading*, where the scaffolding or support is removed a stage at a time. As the learner begins to work independently, he/she gradually adopts the methods of articulation and reflection. That is, the learner/practitioner is encouraged to make their thinking processes about the task or problem transparent to others. The final stage is the one that has most relevance to more complex transfer and that is the stage of *exploration*, in which the learner is encouraged to learn how to think/work in new domains (Brown et al., 1989; Collins et al., 1989).

Sequestered problem solving (SPS) and Direct application (DA) of transfer paradigm

Typically, researchers conduct their studies of transfer in a laboratory setting or within a controlled training and workplace environment. Bransford and Schwartz (1999) used an analogy to jury practices to describe studies of transfer of learning as using what they refer to as a 'sequestered problem solving' (SPS) approach. The learners are provided with a learning task; then they are tested with a transfer task. During the transfer task, which involves the direct application (DA) of the learning, and often during the learning task, the participants are sequestered to protect them from contamination. 'There are no opportunities for them to demonstrate their abilities to learn to solve new problems by seeking help from other resources such as texts or colleagues or by trying things out, receiving feedback, and getting opportunities to revise' (Bransford & Schwartz, 1999, p. 68). Bransford and Schwartz suggest that the combination of SPS methodology with DA has led to the pessimism about transfer. In the DA theory of transfer, transfer is 'the ability to directly apply one's previous learning to a new setting or problem'. They propose an alternative to the DA theory of transfer and the SPS approach. This they call preparation for future learning (PFL). They are calling for a shift in approach to that of assessing the learner's ability to learn in real situations such as organisations. The authors point out that when a new employee commences work they are not expected to know everything required for adaptation to the new setting. An employer wants employees who can learn and who will make use of available resources (colleagues, books, CD-ROMs, the Internet, and so on) to adapt. 'The better prepared they are for future learning, the greater the transfer (in terms of speed and/or quality of new learning' (Bransford & Schwartz, p. 68).

They provide an interesting example involving novice teachers. Using the SPS and DA approach, the novice teachers would be assessed on their application of what was learned on the course. The assessment would be conducted at the end of the course and would be a one-off assessment. In contrast, within a PFL approach, the assessment would be on how the novice teacher shaped their new environment for their own future learning (for example, by setting up arrangements for peer feedback or organising resources).

The SPS paradigm does not bring into view what is often hidden evidence of transfer. The authors cite a study conducted by Singley and Anderson (1989), which could be characterised as PFL. This study examined the influence that learning one text editor had on the learning of a second text editor. What was significant in this study was that the initial testing for transfer did not reveal enhanced ability to learn the second text editor. However, subsequent testing

on day two showed greater evidence of transfer, demonstrating that one-shot SPS tests may be too weak to measure the effects of original learning and practice.

From the PFL perspective, the appropriate measurement focuses on understanding learners' abilities to learn new information and to make connections with prior experience. Bransford and Schwartz suggest that PFL may be used to reinterpret standard studies which utilise the SPS and DA approach. They provide the example of an eagle recovery plan study in which two groups of students, one school students and the other college students, were set the task of developing an eagle recovery plan. When the SPS and DA approach was used, the outcome was disappointing, with the two groups of students being some distance from generating an effective recovery plan. However, when the research was reinterpreted using a PFL perspective, the same evidence revealed that the college students were equipped to solve the problem. While they had not generated an effective plan at the time they were tested, they had generated the type of questions that were likely to lead them in the appropriate directions. From a PFL perspective, questions are significant for learning: 'One determinant of the course of future learning is the questions people ask about the topic, because these questions shape their learning goals' (Bransford & Schwartz, 1999, p. 69).

The work of Bransford (2000), and his contemporaries such as Schoenfeld (1999), Perkins (1988), Singley and Anderson (1989), and Haskell (2001), accords a primary position to the study of transfer within the study of learning and, by implication, the advancement of teaching practices. Bransford argues that the ability of students to transfer can provide teachers with information for the evaluation and improvement of instructional approaches. Bransford builds on the evidence from the broader literature to identify what leads to effective teaching for transfer. Notably, given the long history of debates on specificity (identical elements) versus generalisation, Bransford emphasises that the most effective transfer comes from a balance of specific examples and general principles. When a teacher focuses on learning for understanding, the time spent by the learner on acquiring understanding has consequences for transfer that are different from the consequences of the time spent on rote learning or memorisation (Bransford, 2000).

The learner and authentic settings

Previously in this chapter, reference has been made to the solid tradition of quantitative and experimental studies in the area of transfer of learning (for example, Bransford & Schwartz, 1999). Typically, such studies have concluded that transfer is difficult to achieve and is confined to simple and narrow tasks. At the same time, there is acknowledgement that this flies in the face of the commonsense view that people are continuously drawing on prior learning to solve new problems and to adapt to new settings. Schoenfeld highlighted that transfer studies typically look at transfer of 'learning' predetermined by researchers.

This chapter has highlighted the growing consensus among transfer of learning theorists that the encoding and organisation of knowledge is hugely significant for its later accessibility, retrieval and use. The implication for educators is that, if learning is to transfer to new and different contexts, attention needs to be paid to cognitive processes. This requires educators to consider the encoding, organisation and retrieval of knowledge in their instructional design. The literature suggests that, if within a course the emphasis is placed on preparation for examinations, knowledge will be encoded and stored for retrieval in composing essays or for answering exam questions. The learner may effectively transfer the learning within the examination or essay situation but is likely to have difficulty with transfer of the learning to a workplace situation. If a course is to prepare learners for future workplace situations, future transfer needs to be addressed within the course. If the course prepares learners for future workplace problems, knowledge will be encoded for use in authentic problem solving or for use in identified situations in the future. The knowledge will be encoded, organised and retrieved for workplace problems.

4. Distance education: Integrating learning and living

Introduction

This chapter presents an overview of the conceptualisation of open and distance learning as an aid to understanding the learning environment of the learners who participated in the case study. Attention is paid to the concepts of transactional distance, guided didactic conversation, and openness. The reconfiguration of the teaching role within distance education is discussed. The motivations and goals that learners have in enrolling in distance education are discussed. Later, the shortcomings of distance education are identified and addressed.

Motivation and reasons for choosing distance education

The literature suggests that there are three common reasons for choosing distance education. They are convenience, flexibility and adaptability in relation to the situation and needs of individual students. For some students, distance education is a substitute for conventional education rather than the mode of choice. The expansion of distance education programmes and institutions, with an associated growth in student numbers, is the result of efforts to meet the needs of 'second-chance learners' — those wanting qualifications or up-to-date professional skills in situations where responsibilities (family, jobs), circumstances (ill-health, institutionalisation), geography or transport present obstacles for participation in conventional education (de Wolf, 1996). Distance education enables the learner to choose study times that suit them and that can be adjusted to fit in with employment and other commitments (Garrison, 1989a; Verduin & Clark, 1991). Verduin and Clark cite studies that identified minimal travel and lack of conflict with work schedules as significant reasons for enrolling in a distance education programme.

The theorisation and practice of open and distance education

Defining concepts

What is distance education and who is involved in distance education? A useful starting point is the definition of distance education as 'any formal approach to learning in which a majority of the instruction occurs while the educator and the learner are at a distance from one another' (Verduin & Clark, 1991, p. 8).

Keegan's 1980 and 1986 definitions are much cited in the literature. Verduin and Clark have refined these into four elements:

- the separation of teacher and learner during at least the majority of the instructional process

- the influence of an educational organisation, including the provision of student evaluation

- the use of educational media to unite teacher and learner and carry course content.

- the provision of two-way communication between teacher, tutor, or educational agency and learner (p. 11).

Keegan also identified industrialised features and privatisation of institutional learning as characteristics of distance education.

Garrison (1989a) argues that distance education is distinguished from the rest of the field of education by the noncontiguity of the teacher and the student rather than by its aims, conduct, activities and so on. Distance may have inherent restrictions, but it does not change the core education transaction.

Within the literature there is a confusing use of terms; for example, the terms *distance education* and *distance learning* are sometimes used interchangeably (Sherry, 1996). Some writers have distinguished between the two by defining *distance education* as involving two-way communication between a student and an educational institution, which is responsible for teaching and assessment. This is in contrast to their use of the term *distance learning*, which is used by some to mean the use of self-instructional materials (print-based, CD-ROMs, computer programs, audiotapes, videotapes) in the absence of two-way communication with a teaching organisation (Keegan, 1986; Verduin & Clark, 1991). According to Tight (1996), the United Kingdom's Open University refers to *distance teaching* or *teaching at a distance*. However, a more recent (June 2001) examination of The Open University website (information for prospective students, media releases and speeches of the Vice Chancellor) revealed that *distance learning* is the term now used to describe the work of The Open University (http://www.open.ac.uk).

This discussion is confined to learning that is intentional and planned and that occurs in an educational setting (Garrison, 1989a). Ordinarily in distance education, the learner will be in a separate location and usually working at a time different from the teacher(s) and fellow students (Perraton, 2000). Typically, the student and the teacher work and communicate in an environment that is variously referred to as *noncontiguous* (Garrison, 1989a) or as *asynchronous* (Threlkeld & Brzoska, 1994).

The Open Polytechnic of New Zealand, which is the education provider of the Bachelor of Business degree (used in the current case study), favours the use of the term *distance learning,* with its emphasis on the role of the learner. Its vision statement is 'First choice in open learning — supporting learning at any age or stage'.

In this report, the term *distance education* is used when the organisational perspective predominates, such as in referring to institutional structures, arrangements, and relationships. The term *distance learning* will be used when the perspective of the learner predominates.

Transactional distance

A particular aspect of distance education is that the teachers and learners are separated from each other, and Moore (1973, 1993) emphasises the communication, or the educational transaction, that occurs between teachers and learners across that distance. He refers to the 'space' that must be bridged for communication to occur between teacher and learner as the *transactional distance*. Transactional distance is a relative term and varies in respect of each learner's connection to his or her teacher, and in each situation:

> It is the separation of learners and teachers that profoundly affects both teaching and learning. With separation there is a psychological and communications space to be crossed, a space of potential misunderstanding between the inputs of instructor and those of the learner. (Moore, 1993, p. 22)

Teaching role

In addition to the physical separation of teacher and learner in distance education, the roles of the teacher may be shared among a number of individuals and areas of a distance education institution, accentuating the distance between learner and teacher. In a classroom setting, an individual teacher will often carry out all the roles of course design, instructional design, media production, teaching, guidance and assessment. In a distance education setting such as The Open Polytechnic's Bachelor of Business, course materials are the equivalent of lectures, class discussion, class notes and readings. The development of course materials, including the instructional design, requires a particular set of skills and usually this is undertaken by a team (for example, a subject expert, an instructional designer, a technical editor, an editor, an illustrator and a project leader). Some, or even all, of these roles may be contracted out. As well, other teaching roles may be carried out by a course teaching team: lecturers, local tutors, and assessors.

Daniel (1999), the Vice Chancellor of The Open University, had a radically different view of the teaching role in distance education from that in face-to-face education. He argued that, in distance education, it is the institution that teaches rather than the individual. In a traditional classroom an individual teaches a group of learners, and the teaching needs to be directed at the group; in distance education a group teaches an individual learner, and the teaching needs to be directed at an individual. Daniel, while acknowledging that there are some disreputable distance education programmes and institutions, argued that quality is an inherent characteristic of distance education.

The learning experience

The learner studying at a distance has a different relationship with their teacher from that a student has with a teacher in a conventional face-to-face setting (Kaye, 1989). The teacher will not have the degree of control that a classroom teacher has, and the learner will have more control over interactions. The distance learner needs to demonstrate considerable independence and self-regulation. Control rests more with the learner than the teacher in relation to elements such as timing, pace, and what is actually covered (Jonassen, 1992; Lewis, 1993; Rumble, 1993). However, there will be little opportunity for learner feedback to have an immediate effect on course materials because, typically, content and methods will have been set in place months or even years earlier. Also, there may be limited, or even no, opportunity to interact with fellow students. Electronic media have provided a huge boost to the possibilities for interaction with other learners and teachers and also enable greater learner control of learning. However, costs to both learners and providers mean that, as yet, electronic media are not standard components of the course materials.

Peters emphasised the industrial nature of distance education, referring to it as the 'most industrialised form of teaching and learning' (as cited in Keegan, 1994). In doing so he was referring to the systems of production that enable institutions such as The Open University to enrol and support over 200,000 students per year. Distance education institutions need to devote significant time and resources to the planning, preparation, production, management and administration of courses. In such institutions, the systems and methods of industry, such as a marked division of labour, contracting out, and mass production, are used to produce course materials and to provide administration services. Kaye (1989) suggests that the overriding importance of procurement, production, storage and distribution to distance education set it apart from conventional education. Course development may commence some years before a course opens for enrolment. Production and distribution requirements play a significant part in the development process and may lead to conflict with

those involved in writing and course design. The institution usually has formal systems for course evaluation and other quality controls. As discussed elsewhere in this chapter, in the 'industrialised' distance setting, the teaching role is radically different from that within a conventional institution. The distance teacher needs to be able to work in a team, to work to 'production deadlines' in developing course materials, and to accept the scrutiny and comment of other members of the team.

Openness

The learners who participated in the case study discussed in subsequent chapters were enrolled in The Open Polytechnic's Bachelor of Business. Introductory material for the degree (2000) defined *open learning* in the following manner:

> Open learning is learning which is brought to you. Course material is delivered to you. Your lecturers, library services and student support are able to be accessed through email, fax or freephone.

> Open learning of the kind offered by The Open Polytechnic is increasingly being seen as the education of the future: freeing students, wherever possible, from the conventional limitations of class attendance at fixed times and places. (p. 4)

The Open Polytechnic characterises itself as an open learning institution. In this section the concept of openness is discussed and related to distance education and learning.

Elsewhere in this chapter, distance education was described as a means to overcome barriers to education through providing access for those whose educational needs are not met by conventional provision. The massification of higher education is the 'opening up of higher education', and similarly, distance education 'opens up' education options for many prospective students. Paul (1993) suggests:

> Open learning is merely one of the most recent manifestations of a gradual trend towards the democratization of education. The use of the term 'open' admits that education and learning have traditionally been 'closed' by various barriers - entrance requirements, time constraints, financial demands, geographical distances, and, much more subtly, social and cultural barriers, as well as those of gender. (p. 115)

Tight (1996) suggested that the concept of distance education has, to some extent, been replaced by the more encompassing concept of 'open learning'. Open learning has been defined in a multitude of ways that, while diverse in their operational meanings, usually share the aim of being learner-centred.

Rumble (1993) argued that the two concepts are very different. He defined distance education as 'a method', and open learning as 'a description of the nature of education, whether at a distance or in a contact situation'.

Openness: A continuum

In order to build a theoretical model of open learning, Lewis (1993) developed a continuum based on the learning career of the learner. He depicted the career as having three stages: entry processes; learning processes; and final assessment processes. At each stage learners may be given choices. For instance, the learner at the stage of entry may have choice over why they are learning and what they will learn. During the stage of learning processes they may have choice over how, where and when they learn. They may be able to choose whom to seek help from and to choose when to seek assessment. In the final stage they may have the choice when, where, how and on what they will be assessed and, finally, on what their next step will be. In a similar vein, Rumble categorised the concept of *openness* in terms of types of criteria as they relate to the learner:

- Access-related criteria refer to the ability of a learner to enrol without regard to age, attendance ability, employment status, ties to environment (prison, hospital, home, and so on), or financial costs.

- Place and pace of study-related criteria refer to the choice of a learner in terms of location, timing and pace.

- Means-related criteria refer to the choice a learner has to study at a distance or in a conventional setting and to some extent to their choice of media to match preferences in learning styles.

- Content and assessment-related criteria refer to the choice of a learner over what is studied, access to credit for previous learning and experience, and the extent of learner involvement in defining learning objectives and content, including involvement in assessment design.

- Support-related criteria refer to the ability of a learner to access advisory and support services. They include academic advice, including over subject choice and progress. They include options as to when, where and how to access support; for instance, is support provided face-to-face, by mail, by telephone, or electronically?

Motivations and goals

This study emphasises the perspective of a group of distance learners. There is general agreement that successful distance study requires a high level of commitment and motivation from learners. A number of studies have explored the reasons individuals have for enrolling in educational programmes. Houle (1961) developed a typology with three classifications of learner orientations:

- goal-orientated

- activity-orientated

- learning-orientated.

Biggs (1987) developed a typology of motivations based on three approaches to learning: surface, achieving, and deep. For Biggs, a learner with a surface approach was classified as extrinsically motivated. Biggs's model enabled differentiation between the extrinsically motivated surface learner and the learner whose approach was achievement-orientated and who sought to excel in terms of marks and achievement in relation to a desirable qualification. In contrast, the deep approach was characterised by a true interest (a love) of learning and of the subject.

Of particular interest to the current study is the work of some British researchers on the orientations to study of distance students. Taylor and colleagues (1981) conducted a study of undergraduate students at The Open University and their reasons for studying. The students were enrolled in a social science foundation programme. In contrast to the current study, which mainly involves students who are in full-time employment, the students in The Open University study were not in employment. Taylor used the expressed goals of the students to develop a typology for classifying the orientations to study. The findings were that the students' goals could be classified in terms of four overall orientations, vocational, academic, personal, and social. Within the vocational, academic, and personal orientations, there were additional differentiations based on whether the interest in study was intrinsically or extrinsically motivated. For instance, a student interested in learning which enhanced their ability to do their job would be classified as vocational orientation with intrinsic interest. Whereas a student wanting to complete the programme in order to gain a qualification that would increase their potential earnings would be classified as having a vocational orientation with an extrinsic interest.

Strang (1987) drew on the work of Taylor and her colleagues in a pilot study carried out on the establishment of an 'Open Tech' course by the United Kingdom Manpower Services Commission. The aim of the pilot was to

investigate barriers to effective learning for distance students at the technician level. Strang argued that, to understand the effectiveness of the learning situation, it was important to know the intentions of the learners and the decisions that they made related to their learning. The students were employed as technicians in industry. Strang found that Taylor's typology was applicable to the technicians, with the exception of the social orientation, which emerged as irrelevant. Strang's findings suggested that, although the technicians were enrolled in the programme mainly for vocational reasons, they often had complex combinations of reasons for studying. For instance, a number combined vocational, personal, and academic reasons. However, it was common for one reason to dominate. Interestingly, Strang found that those categorised with a vocational intrinsic orientation tended to outperform those with a vocational extrinsic orientation. Table 4.1 draws on the work of a number of authors to present a typology of learning orientations.

Table 4.1: Typology of learning orientations of students

Orientation	Interest	Aim	Concerns
Vocational	Intrinsic	Enhancement of occupational skills and knowledge	Relevance of course to career or job
	Extrinsic	Qualification	Recognition of worth of qualification for career, in job market
Academic	Intrinsic	Pursuit of intellectual interests	Intellectual stimulation, love of subject, interesting course work
	Extrinsic	Educational advancement	Grades, academic progress
Personal	Intrinsic	Self-improvement	Challenge, personal growth, enjoyment
	Extrinsic	Proof of capability	Feedback, passing the course
Social	Extrinsic	Development of social skills and relationships	Opportunities for social interaction

(Adapted from the work of Taylor et al. (1981), Strang (1987), and Olgren (1998))

Work on learning orientations is of interest to the current study in two ways. Firstly, it provides a framework for exploring the motivations and goals of these distance learners who are enrolled in a vocational degree programme. Secondly, there is a growing consensus that motivations and dispositions play crucial roles in both learning and transfer. As argued in the previous chapter, the ways in which deep learning are embedded in knowledge provide for the encoding, organisation, and retrieval of knowledge, which facilitates transfer.

Integrating learning and living: The distance student

The necessity for continuous learning in conjunction with social responsibilities demands an integration of learning and living (Garrison, 1989b, p. 105).

While the student populations of distance learning institutions are diverse, they have common characteristics that set them apart from the student bodies of conventional education institutions. On average, distance students are older, with the 25–40 years age group being the predominant group in most instances. An associated feature is that most are employed and/or involved in the care of families. Most study part-time and do so in their homes (Holmberg, 1989; Kaye, 1989; Sherry, 1996). Adult students enrolling in either distance or campus-based programmes are usually doing so by choice (Garrison, 1989a). The voluntary nature of most distance education sets it apart from in-house (organisational) and similar training programmes for which participation is required.

Garrison (1989a) identifies three growing trends in adult education: integration of learning and living; self-directed learning; and lifelong learning. Although all have relevance for distance education, the integration of learning and living has particular importance. While the focus of this study is on distance education, it is acknowledged that these trends are also leading to major changes in face-to-face educational contexts, both in relation to growing numbers of age-mature and part-time students and to an increased emphasis on application and the integration of living, theory and practice (Ainley & Bailey, 1997; Boud et al., 1993; Claxon, 1999; Leberman, 1999; Tight, 1991). Distance education is one way of enabling learners to integrate their learning with their working, family and community lives. The 'transfer problem' is the issue of the apparent failure to use what has been learned in one situation in a new or different context. Integrating learning and living may assist in bridging the gap between a learning situation and transfer situations.

The relationship of learning to living is multifaceted. The learner's participation in work, family, and community may be enhanced by what has been learned: skills, knowledge and understanding. The learning may be enhanced by the

learner's work, family and community experiences (Freire, 1972; Gibson, 1998b; Knowles, 1970). When, where and how the learning is undertaken needs to be interwoven with other responsibilities. A number of studies of adult learners have shown that pragmatic reasons for enrolment are common (Apps, 1988; Garrison, 1989a; Thompson, 1998; Verduin & Clark, 1991) In one study, over two-thirds of adult learners identified job-related reasons for enrolment. These included entering a new job, seeking advancement or seeking a new job (Verduin & Clark, 1991). There is the sense that some learners are using distance education as a source of continuing professional development. Schon's (1983) concepts of the 'reflective practitioner' and 'knowledge in action' have been highly influential in discussions on the relationship between professional work and learning. They are pertinent to the current study both in relation to transfer of learning and to exploring the experiences of students engaged in study for a professional qualification.

In a related vein, Eraut (1994) suggests that professional work involves a succession of cases, problems, and projects and thus professionals are engaged in ongoing learning on the job. He distinguishes between the handling of routine situations and special cases. In transfer of learning terms, routine situations require low road transfer. Special cases require complex and high road transfer. Eraut suggests that, while some professionals are able to integrate their learning from special cases into their general knowledge and thus make it more readily accessible for future use, others fail to integrate the learning and it is stored, as it were, separately. In what could be categorised as a PFL approach, he suggests that continuing professional development can be a catalyst for work-based learning, '... assisting with the integration and organization of previous experience, alerting people to new sources of information and work based learning opportunities' (p. 11). While Eraut was concerned with conventional off-job learning, his comments are equally applicable to distance education programmes such as The Open Polytechnic's Bachelor of Business.

Perceived shortcomings of distance education

Critics identify a number of shortcomings of distance education. Distance education courses are seen as mass-produced; therefore, distance education is seen as an inappropriate way to address the diverse needs and situations of individual learners. The pre-production of course materials is seen to exclude the individual learner from negotiating the learning outcomes, the content, and the process of the course. As well, the learner is seen to be restricted to learning from received examples, from the texts. Authentic experiences are not seen as a natural part of a distance education course.

Critics view the lack of interaction in distance courses as a barrier to the development of interpersonal skills. Interpersonal skills such as communication and teamwork are increasingly valued as educational outcomes. The learners on a distance course are seen as isolated individuals who work independently on the course, who have limited or no contact with other learners on the course, who have limited, possibly a synchronous, interaction with the teaching staff. Implicit in such criticisms is a view that a higher level of interaction occurs in traditional contact institutions. However, observation of a typical lecture situation shows that only a small number of individuals contribute questions and comments or stay to talk with the lecturer. Whether the interaction between students and teachers is higher in contact institutions in comparison to distance education is questionable, unless the lecturer (contact) adopts an interactive approach and invites questions and discussions. Even then it is unlikely that more than a handful of students will actively engage in the interaction.

Integrating experience, reflection and learning

Distance learning is seen as flawed precisely because (so the criticism goes) knowledge is packaged, even pre-digested, via uniform course materials in which the course team's view dominates and takes the place of what should be the learner's effort after independent thought. As a result, a critical, reflective capacity is not developed by the learner (Thorpe, 1993, p. 99).

Educationalists want learners to develop the capacity for critical reflection. It is one of the main outcomes sought from higher education. The criticism outlined above is both a common and valid criticism of some distance education courses. Embedded within such criticism is the view that the content of distance education is rigid and does not enable the individual student to contribute their own experience to the course or to adapt the course to their own situation. Such a view sees the learning as being learning from text, not learning from experience or from shared perspectives. A common misconception is that distance education is a situation where 'one size fits all' and that, in contrast, conventional education enables learners to articulate diverse needs and have them addressed.

Kolb's (1984) learning cycle is much cited in education (Thorpe, 1993; Tight, 1996; Wicks, 1996). The cycle provides a model for conceptualising the integration of learning and living. It places emphasis on both concrete experiences and on reflection on those experiences. It depicts the integration of experience, reflection and learning as a cyclical process. Tight (1996), in a discussion on experiential learning, used this definition of learning from Kolb (1984, p. 38) 'the process by which knowledge is created through the transformation of experience'.

Kolb's learning cycle has four phases:

- concrete experience

- reflective observation

- abstract conceptualisation

- active experimentation.

If distance education consisted of prepackaged knowledge and involved the learner in learning from the package/text alone, the learner would be precluded from moving through the learning cycle. Such a course would not provide opportunities for concrete experience or for active experimentation. A course that does not include opportunities for concrete experience may still develop a student's capability for critical reflection through activities based on the theories, concepts and principles covered in the course.

In practice, distance education is not limited to reflection on theory and examples included in texts. Distance education allows for experiential learning and the nurturing of capability to critically reflect on actual practice as well as theory. Thorpe (1993) describes a course *(Approaches to Adult Learning)* that was developed as part of a professional diploma for adult education and training practitioners. It was intended that graduates of the diploma would have developed their identity and understanding of themselves as adult education and training practitioners and/or professionals; that they would have a good understanding of the relationship of theory to practice; and that their future practice would be informed by these understanding. The course utilised an experiential learning approach, where the students were encouraged to reflect on their own experiences and on how those related to the theory. Thorpe identified two stages in learning: the time of the experience; and reflecting back on the experience. Thorpe saw this as capturing the learning, which involves the learner in 'naming' what has been learned, and saw the 'naming' as leading to the learning being accessible in new or future situations.

As Thorpe acknowledges, this view overturns the classic view of distance learning as 'home-based learning'; instead, the learning location is dynamic. The course provides the theory and the reflective questions, which the learner makes sense of in terms of either current or past experiences. Thorpe recognised that with the change in perspective regarding where the learning is seen to be taking place (from home-based to based in the workplace/community) comes the expansion in the number of people who may be involved in the learning (colleagues, friends, family). The relationship between learning and everyday living has been recognised over many years (Knowles, 1970; Darkenwald &

Merriam, 1982). It is also increasingly being recognised in distance education because, as Garrison (1989a) asks: 'What method has more potential than distance education for increasing participation through the integration of learning into the lifespace of an adult?' (p. 229).

An experiential learning approach within distance education has significance in a number of ways. It may enable the student to integrate what they are learning into their everyday practice and vice versa. At the same time, it nurtures the habit of critical reflection within out-of-course contexts. But importantly in the light of the earlier discussion on transfer of learning, the learning is internalised by the act of 'naming' the learning and thus is accessible in new and different situations. Thorpe argues that courses should 'create opportunities for students to gain new experience in contexts away from the authority of the teaching institution' (p. 110). An instructional approach that includes experiences in authentic settings, facilitates learning from others, and encourages internalisation of learning would be compatible with Bransford and Schwartz's call for a reconceptualisation of transfer as preparation for future learning (PFL). With PFL, an individual is not expected to already be equipped with the necessary skills, knowledge and understanding to solve a particular problem, but is expected to know how to go about solving problems, including being able to draw on resources (such as colleagues).

A number of instructional design approaches were used with the courses that were undertaken by the learners in the case study. All emphasised the development of reflective and critical thinking. Some incorporated experiential learning approaches, including problem-based learning. These and their relevance to transfer will be discussed in later chapters.

> The distinctions between distance and traditional education, adult, continuing and higher education will become blurred and recede in memory. This will coincide with the growing acceptance by both educators and public of the notion of universal lifelong learning. (Moore, as cited in Garrison, 1989a, p. 230)

5. Methodology

Introduction

This chapter outlines the methodology of the current study. The chapter describes the context, the participants, and the research methods. It begins with a reorientation to the research project and its aims. It continues with a description of the research design, which combines qualitative and quantitative approaches and methods. The research plan was put into practice in the context of a business degree offered by The Open Polytechnic of New Zealand.

Research design

The contexts for the study were a degree programme offered by a distance education institution and the workplace/community settings in which students worked. The study places particular emphasis on the perspective of the learner. The research enabled a number of factors related to transfer to be explored and discussed: prior learning; motivations; the experience of learning; the distance learning experience; course materials; essential skills; the transfer context; and aids and barriers to transfer.

The research questions

The aim of the research project was to consider transfer of learning within the context of a vocationally orientated degree programme offered by a distance education institution: The Open Polytechnic's Bachelor of Business.

The research questions were developed from the research aims and objectives and refined as the research progressed. The global research questions were:

- What is meant by transfer of learning?

- How is transfer of learning addressed within the context of The Open Polytechnic's Bachelor of Business programme?

- What were the experiences of learners on The Open Polytechnic's Bachelor of Business course?

- What are the implications of the above for course design and delivery?

Research approach: Combining quantitative and qualitative methods

The study, while predominantly qualitative, drew on both qualitative and quantitative paradigms and methods. Stage One of the research involved a mainly quantitative questionnaire with a small number of open items. The analysis utilised both statistical and interpretive tools. Stages Two and Three of the project consisted of semi-structured interviews. While the interviews were qualitative, quantitative influences contributed to their design, conduct and analysis. For instance, decisions about the sample, how the participants were selected, the desired number of participants, and how data were handled reflected quantitative approaches. The interviews, rather than using a free and open approach, followed semi-structured interview schedules. The schedules were shaped by the tentative framework, which had emerged from the literature review and the questionnaire.

The context: The institution, the degree and the courses

The Open Polytechnic of New Zealand

In 1999 The Open Polytechnic of New Zealand was one of 25 polytechnics in New Zealand offering tertiary level education. It differed from the others in that it was a national institution and the only one to specialise in distance education.

The Open Polytechnic was established after the Second World War as a technical correspondence school and became the Technical Correspondence Institute (TCI) in the 1960s. As the TCI it specialised in delivery by correspondence of a diverse range of trade and vocational courses at sub-degree level. As well as providing access to courses for trade apprentices who were unable to study locally, the TCI became a major provider of commercial qualifications such as national certificates and diplomas in business and accounting. Many students enrolled with the TCI to complete requirements of professional bodies, such as the New Zealand Society of Accountants or the New Zealand Institute of Management (NZIM).

The New Zealand Education Act 1989 sets out the distinguishing features for each type of tertiary education: universities; colleges of education; polytechnics; private training establishments; and wananga. Section 162(4)(b)(ii) of the Act states:

> A polytechnic is characterized by a wide diversity of continuing education, including vocational training, that contributes to the maintenance, advancement, and dissemination of knowledge and expertise and promotes community learning, and by research, particularly applied and technological research, that aids development.

In 1990 TCI changed its name to The Open Polytechnic of New Zealand. With that move also came a philosophical move to redefine the institution as an open and distance learning provider rather than as a correspondence institution. The institution moved to an industrial model of learning design, development and delivery more in keeping with others such as The Open University (UK). The industrial model of course development and the 'role' of teaching in distance education were discussed in chapter 4.

The Open Polytechnic is based in Lower Hutt (near Wellington), where it has a campus and most of its operations: faculty; learning design; library; printery; distribution centre; call centre; and administration. Approximately 400 staff are employed on site. It is also common for specialist services such as writing, teaching, and marking to be contracted out. There are three small regional centres situated in Auckland, Wellington and Christchurch.

The Open Polytechnic is promoted as an institution dedicated to vocational education and training and to lifelong learning. As discussed earlier, a distance institution is inherently open in that it provides access to education for those facing the barriers of geography, health, social and family responsibilities, and so on. Publications and internal documentation contain the vision and mission statements of The Open Polytechnic: 'First choice in open learning — supporting learners at any age or stage', and its mission statement: 'To support the development of lifelong learners through open learning'.

The Bachelor of Business

The Bachelor of Business (B.Bus) was selected for this study because it was a vocationally oriented degree, and because it was assumed that the B.Bus students enrolled sought to gain or enhance their occupational skills, knowledge and status. Most B.Bus students were in employment, and there was a reasonable expectation that they would have opportunities to apply their learning in their employment context. In essence, it was assumed that most would have the will and the means to transfer what was learned to workplace situations. As discussed in chapter 3, one of the major debates in the area of transfer of learning is about specific versus general transfer; and a challenge for educators has been identifying how to provide learning opportunities that facilitate transfer of complex learning to new and different settings. A degree programme provides opportunities to explore general learning (such as critical thinking) and complex learning in both discrete and integrated domains.

The Open Polytechnic began offering the Bachelor of Business in 1992. This, its first degree, was joined in 1994 by the Bachelor of Applied Science and, in 2000, by the Bachelor of Arts degree. There were two reasons for entering the degree-awarding area. Firstly, amendments were made to the Education Act that enabled polytechnics to offer degrees, a right previously restricted to universities. Secondly, under pressure to upgrade its qualifications and because polytechnics could now offer degrees, the New Zealand Society of Accountants, now known as the Institute of Chartered Accountants of New Zealand (ICANZ) altered its registration requirements to include the requirement for a specified degree. Previously, many accountants had studied at polytechnics and gained registration with a Diploma in Accounting.

The Open Polytechnic had been a major provider of the Diploma in Business and the Diploma in Accounting. The development of the new degree built on the existing Diploma in Business courses and sought to meet the body of knowledge requirements of the Society of Accountants. In 1992, the degree was offered with one major: accounting. From the start, the requirements for those seeking ICANZ registration were prescriptive. Even in 1999, when approximately 80 papers were offered for the degree, accounting majors had limited options. In 1999, 20 papers were required for ICANZ registration, of which 18 were specified. More recent changes have resulted in more papers and more choices, with current ICANZ registration requiring the 18-paper B.Bus plus a six-paper advanced diploma.

The philosophy and structure of the degree stem from the background and the requirements of that major. From its inception the intention was that the courses be practical and designed with workplace application in mind. An assumption was that students would be employed in the field and the use of workplace examples in assessment was to be encouraged. Course teams were encouraged to integrate generic or essential skills into courses. These skills included communication and technology skills. Courses were developed in an environment where debates were occurring as to what a degree was and as to what knowledge, skills and attitudes a degree ought to develop. There were tensions between those who wanted to create an innovative degree and those who wanted the degree to replicate a conventional university commerce degree. There was consensus that a degree would foster critical thinking. Once the B.Bus was launched by The Open Polytechnic, work began on the Bachelor of Applied Science, which emphasised the development of generic skills and problem-solving approaches to learning. In both degrees, those developing courses were encouraged to address the generic or essential skills of technology, communication, research, and problem solving. The *Bachelor of Business 2000 Programme Guide* stated:

> In today's volatile work environment, you need to be self-motivated and a confident problem solver.
>
> The principle aim of the Bachelor of Business programme is to promote skills, competencies and attributes which are valued by the wider business community. The Bachelor of Business focuses on developing skills in effective thinking, communication and relationship building. (p. 6).

The 1999 Open Polytechnic academic year consisted of three 17-week semesters. Semesters one and two parallel the academic year of other New Zealand tertiary institutions, semester three being a summer semester. While the majority of students studied part-time, the degree could also be studied full-time. First-time distance students were encouraged to start with one paper. Distance education has a high drop-out rate. (This was discussed in chapter 4.) Although the fees were considered costly by many of the students (approximately $500 per paper), persistence remains an issue. The first-year courses have high drop-out rates and a higher student failure rate. Completing a degree while working full-time requires significant commitment and self-management on the part of the distance learner. A student employed full-time and completing two papers a year would take at least nine years to graduate. There are a number of qualifications which enable students to exit part-way through the degree with a diploma. There was the flexibility for those who had completed diplomas or were part-way through degrees from other institutions to use cross-crediting procedures to enrol with The Open Polytechnic and complete degree requirements.

The courses

Following consultation with polytechnic staff, five of the 80 courses offered for the degree were selected for this study. Staff consulted included the heads of school, the degree co-coordinator, the academic officer, and the coordinator of the student satisfaction surveys. Agreement was then gained from course leaders. Four of the selected courses were core courses in the degree. For each of the courses, a minimum of 50 students had completed the full course of study in 1999. In 1999 and 2000 a number of in-depth evaluation (or review) and research projects were being conducted involving 1999 courses and students. Courses included in any of those projects were excluded from this study. Permission to include courses was sought from course leaders. The response was positive and supportive.

The courses which will be referred to as Course A, Course B, Course C, Course D, and Course E encompassed the disciplines of: accounting, information science, law, and management. Courses A and B were at level five or first-year degree courses; Courses C and D were at level six; and Course E was at level seven. In broad terms, Course A was a knowledge-based course; Courses B and C were technical courses; Course D was a theoretical course; and Course E was an applied course. What is significant is the learner's experience of learning to transfer. Not naming the courses keeps the focus on *transfer* rather than shifting it to specific courses. The anonymity of learning design and teaching staff is further protected by not naming the courses. The focus was on what the learner sought to transfer, not what the institution sought to teach. This research was exploring learning to transfer in authentic situations, not in controlled and contrived environments. Each learner brought a unique history and previously acquired knowledge, skills, attitudes and understanding to the courses. A few were enrolled in one paper; some were enrolled in six. As they studied, they lived and worked in communities and learned in those settings as well. Given that the focus is on the learner's perspective, details of specific courses do not form part of the current study.

In chapter 4, differences between conventional contact courses and distance education courses were discussed. Courses in the Bachelor of Business were developed by teams who may or may not have included the staff teaching those courses at any one time. Course development teams typically consisted of a project leader, a writer, a subject expert as technical editor, an instructional designer and an editor. These teams are responsible for the creation of the course materials. The course materials are the equivalent of combining lectures, handouts, and tutorials from a contact institution. Given that most of the courses had first been introduced into the degree five to six years previously, it was not surprising to learn that most had been through major and minor revisions. Revisions took place to address environmental, legislative, disciplinary, and assessment changes. Commonly, there was little overlap between the work of the original course development team and that of the revision team.

The courses shared similar structures. Four of the five had two or three in-course assessments such as projects, case studies, essays, and a final examination. The fifth course did not have an examination, and consisted of four in-course assessments. The weighting of marks was similar for the courses, either being 40% for the in-course work and 60% for the examination, or 60% for the in-course work and 40% for the final examination. All courses in the degree were designed to involve a typical student in 180–200 hours of learning. Students were advised to plan to spend 11–12 hours per week for each course for the duration of the semester.

There were differences in how teaching, marking, and assessment were conducted for the five courses. In one case, those roles were carried out mainly by the designated lecturer; in other cases, a number of people were involved in all roles, with the course leader providing coordination. Some courses used adjunct faculty (contracted off-campus tutors) for student support and for marking assignments.

At the start of the semester, students received pre-packaged course materials, which typically included a course guide, the course, a collection of selected readings, and possibly audio-visual material such as an audiotape, videotape, or a computer disk. The pack would include a recommended timetable for study, due dates for assignments and the examination, and information about activities such as optional workshops or audio-conferences. Students were able to contact their lecturers by phone, mail, or email. The Open Polytechnic has a free-phone system which students use for faxing or phoning teaching, library or administration staff. The library provides a comprehensive service, and materials are usually received by the student between 24 and 48 hours after a request has been made. The course experience of distance students differs significantly from that of students attending a conventional university. They both manage their own time and have more freedom to make decisions about what they study, when they study, and how they interact with the course content. These decisions are made by the individual student. A student could complete 18 papers for the degree without ever meeting or speaking with a lecturer or fellow students. Or the student could phone lecturers and participate in all the optional workshops, audio-conferences, list-servs, and study groups.

Stage One: Survey of learners

Stage One of the research was a survey of all New Zealand-domiciled students who completed one of the five selected courses in 1999. A postal survey was an effective means of reaching a population spread over a wide geographical area. Members of the sample population were asked the same questions, enabling the researcher to see patterns that may be generalisable to a larger population.

This sample was a subset of all students completing courses in the degree programme. For the purpose of this study, completion was measured as either sitting the final examination in the four courses with exams or submitting the major project for the fifth course. The focus was on transfer of learning. To have included students who 'dropped out' of the courses would have undermined that focus and would have posed a number of problems, including establishing whether they had learned anything from the course in the first place.

The aim of the questionnaire was to collect quantitative data that would provide a picture of what the general trends were in relation to students and the question of transfer of learning. The initial analysis of the questionnaire was to inform and refine the subsequent stages of the research project. These were in-depth interviews with course development and teaching team members and interviews with students.

Method

Those students who were enrolled in two or more of the selected courses were sent one questionnaire linked to a specific course.

The self-administered questionnaire was mailed to New Zealand resident students in February 2000. This was three months after students had completed Courses B, C, D and E, and seven months after the completion of Course A. In March 2000, a reminder was sent to students.

The questionnaire was anonymous. Students were provided with two stamped return envelopes, one for the questionnaire, and the other providing them with the opportunity to volunteer to participate in an in-depth interview and to request a copy of the research summary. A reminder with an extended return date was sent to students a month following the initial mailout.

Responses were coded and entered into the Statistical Package for the Social Sciences (SPSS) database. SPSS10 was used for the analysis. The analysis of the open-ended questions consisted of coding, categorising, comparing, and grouping. An important aspect of the analysis phase was identifying issues and implications for the interviews with staff and learners.

The questionnaire

The questionnaire was divided into four sections. The predominant format used for items in the questionnaire was a modified Likert scale. Variations of the scale were used. For instance, in section A, respondents were provided with a number of reasons and asked to agree or disagree with each on a five-point scale that included a neutral mid-point and a sixth option of the category 'not applicable'. Other variations of Likert scales used in the questionnaire are shown in Table 5.1.

Table 5.1: Variations of Likert scales used in questionnaire

All	Most	Some	Very little	None
All the time	Often	Occasionally	Once	Never
Excellent	Very good	Good	Fair	Poor
Extremely useful	Very useful	Useful	Not very useful	Of no use

After each set of items for which a Likert scale was presented, respondents were offered the option of providing their own additional reason or item(s). In Section C, which dealt with the experience of respondents after they had completed the course, there were a variety of items. These included Likert scales, an incomplete sentence, lists, and an open-ended opportunity to comment. Section D sought to gather background information: employment status; occupation; age; sex; ethnicity; and other concurrent education and training. Section D consisted of dual and multiple response items. The design of the questionnaire and content is discussed later in the chapter.

Response rate

The B.Bus students typically combine study with employment and, in many cases, family responsibilities (as described under integrating learning and living in chapter 4). While studying with The Open Polytechnic, they may be invited to participate in a number of evaluations and surveys. The combination of competing demands on students and an overexposure to surveys has led to poor response rates to surveys. Even with the incentive of going into a prize draw, the response rate to the '1998 Student Satisfaction Survey' conducted for The Open Polytechnic by the firm of AC Nielsen was 29%. In 1999, the response rate per course to a 'Student Evaluation of Course Questionnaire' sent to students enrolled in 40 degree and diploma-level courses ranged from 10% to 48%. An evaluation conducted with the 1999 first semester cohort for Course B had a 16% response rate.

Table 5.2: Response rate to questionnaire on distance learning and transfer

	Course A	Course B	Course C	Course D	Course E	Total
N= Questionnaires mailed	51	47	55	52	40	245
N= Completed and returned	16	16	19	21	20	92
Response rate	31.4%	34%	34.5%	40.38%	50%	37.5%

In contrast to the AC Nielsen and student evaluation surveys, which are sent to all students who have completed the enrolment process, the questionnaire was designed for those who had completed the full course of study. Questionnaires were mailed to 245 students. Five were returned as 'Gone No Address'. The only incentive to encourage responses was that of contributing to research that would inform understanding of transfer of learning and possibly would contribute to course development and support at The Open Polytechnic. Ninety-two respondents completed and returned questionnaires. This was a response rate of 37.55%. The relatively higher response rate may be attributed to the culling of the class lists to exclude students who had not completed a significant component of the course such as the exam or major project.

Who were the respondents?

Ninety-two students completed and returned questionnaires. It is interesting to note that a number of respondents did not complete some or most of the items related to demographic details. Ninety-one students provided information on their employment status. Sixty-eight (77.3%) were in full-time employment, that is, working 30 hours or more each week. Nine (10.2%) were employed part-time, that is, working fewer than 30 hours each week. Fourteen respondents were self-employed. There were a number of overlapping categories. For example, 9.9% indicated that they were unemployed but further analysis revealed that this percentage included a small number who also described themselves as either full-time students or beneficiaries.

There were 76 responses to the item on gender; 38.2% of respondents were male and 61.8% were female. Eighty-eight respondents provided information about ethnicity: 72.7% identified as Pakeha or New Zealand European, or as Australian; 2.3% as Maori and 3.4% as Pacific Island; and 4.5% as Indian.

Stage Two: Interviews with Learning Design and teaching team members

Stage Two of the study consisted of interviews with Learning Design and teaching team members associated with the selected courses. The overall aim was to develop an understanding of the individual courses selected for the study, the background to their development, their purpose, the learning outcomes, the learning approaches, and their relationship to the overall degree. These interviews built on the findings from the questionnaire, and on background reading of course materials and documentation such as development proposals, evaluations, and student surveys. The interviews provided an opportunity to explore the ways transfer of learning was addressed in the design of courses and later within in-course teaching and assessment. An unforeseen difficulty was that the courses reflected development and revisions that had taken place over a number of years, and had involved a changing cast of contributors. Stages One and Three of the study focused on the experiences and perceptions of learners. Stage Two aimed to explore the perspectives of those involved in the development of the courses and those involved in the teaching of the courses.

Participants of Stage Two

Stage Two of the study involved interviews with individuals who had been involved in the development of the five courses selected for this study. Ten individuals were interviewed. Of the ten, seven played significant roles in the teaching of one of the courses. Most had been involved in writing or rewriting one of the courses, or in some other way, such as technical editing. Two of those interviewed had been instructional designers for one or more of the courses; one person had managed the learning design team. For some, the involvement in the development of a course had been minimal, and this usually meant that the participant had a limited knowledge of the teaching, learning and assessment philosophies underpinning an individual course.

The method

The interview sample was not a random sample; it was a purposive sample. The participants were selected on the basis that they had been members of the course development team or the teaching team for the selected courses. The course materials were predominantly print-based and included in each was a list of those involved in the development of the course. Information from The Open Polytechnic directories and publications was used to identify and contact course development and teaching team members of the selected courses. A number of writers and instructional designers were no longer employed at The Open Polytechnic. At least two were deceased; one had left the country; a small number declined to be interviewed on the ground that their involvement had been minimal, and/or that their involvement was several years earlier.

Interviews with teaching staff were to identify contextual information about a selected course. An initial analysis helped build a picture of the course. As both sets of interviews took place before those with the learners, the data were analysed to identify implications for learners to be explored in those interviews.

Reporting the results of Stage Two

In contrast to the findings from Stages One and Three, the findings from the interviews with course development and teaching team members are not reported in a separate chapter. Information gained from those interviews was used to provide contextual information for the current chapter and to inform both the interview schedule for Stage Three and the interviews with participants.

Stage Three: Interviews with learners

Stage Three consisted of semi-structured interviews with students who had completed at least one of the five courses in the study in 1999. The purpose of these interviews was to explore transfer of learning from the perspective of the learner, and to develop a deeper understanding of what actually happens for the learner between learning and transfer. The questionnaire explored frameworks suggested in the literature; in a sense, it explored the points of view of researchers and theorists. All respondents received identical predetermined questions, which meant that responses were moulded by the questions. While patterns are revealed, the data from questionnaires is typically superficial in comparison to the rich data which may be revealed in interviews.

The participants

Thirty students were interviewed: 18 women and 12 men. An invitation to participate in the interviews was included with the questionnaire in Stage One of the research. The procedures followed for obtaining informed consent were described in the previous chapter. Thirty-three individuals volunteered. One withdrew awaiting the birth of a baby and another withdrew owing to changed circumstances. All materials relating to an individual volunteer were coded from 1–31. One volunteer (P20) dropped out without explanation. (Note that this occurred at a point where it would have been awkward to recode materials.)

A number of interviewees had completed all five courses in the sample, while others had completed only one course of their degree. Participants ranged from those who had left school without qualifications and for whom this was their first experience of tertiary education to those with postgraduate tertiary qualifications. Five students indicated that they had at least an undergraduate degree when they first enrolled in the B.Bus. A small number of other students had professional qualifications such as teaching diplomas and New Zealand certificates (engineering and electrotechnology). Several had cross-credited into the degree with the Diploma in Business.

Only four participants had been full-time students for all or part of the degree. Sixty per cent (18) of the group were in full-time employment; 10% were employed part-time; and 13% were self-employed. The participants worked in a range of occupations across the public and private sectors. Most worked in small to medium-sized organisations, in accounting, management, human resources or administration roles. Twelve of the students referred to childcare or family responsibilities as influencing their decision to study by distance. Three students described themselves as being at home full-time with children. A number of students were parents of young children, were employed full-time, active in their communities, and enrolling in at least one course each semester.

Fifty per cent (15) of the students had chosen accounting either as their major or as part of a double major. This was perhaps not surprising because, while four of the five courses were core courses for the degree, all five were compulsory courses for those seeking registration with ICANZ. Eight students were management majors, with the rest spread over other disciplines. Of the 30, seven had completed the degree or were on the final paper when interviewed.

Method

A semi-structured interview was designed within frameworks suggested by the transfer of learning and distance education literature. This was refined following the analysis of Stage One and Stage Two of the project. Because the intention was to explore transfer from the perspective of learners, most questions were open-ended. The interview explored questions suggested from the survey findings and from the interviews with staff.

Seventeen interviews were held, in the participant's workplace, home, Open Polytechnic office, office of previous employer, or hotel. Interviews were held in most major cities and in two towns. Thirteen interviews were conducted by telephone. An effort was made to keep all interviews to a maximum of an hour. When they ran longer it was with the permission of the participant. The shortest interview, a telephone interview, lasted for 30 minutes, the longest for an hour and half. All 30 interviews were audiotaped, and transcribed. Notes were made on prepared sheets at the time of the interview. The audiotaped interviews were transcribed. The verbatim transcriptions were checked against the audiotape. Transcriptions were not returned to participants for checking.

6. Survey results

Introduction

This chapter reports on the results of the postal survey conducted for Stage One of this research. The results include both a significant amount of tabulated information and responses to open-ended questions. Information from this survey helped identify themes for the interviews reported later in the report.

Why enrol in the Bachelor of Business? (Question 1)

Question 1 of the questionnaire examined the motivations of the respondents at the time they enrolled in the Bachelor of Business (see **Table 6.1**). It also provided an opportunity to test the validity of the hypothesis that students enrolling in the Bachelor of Business have a strong vocational orientation.

Table 6.1: Reasons for enrolling in the B.Bus programme (Question 1)

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
(a) Gain qualification	N=91 % Cumulative %	76.9	20.9 97.8	2.2		
(b) Improve occupational skills and knowledge	N=86 % Cumulative %	52.3	44.2 96.5	3.5		
(c) Improve earning potential	N=90 % Cumulative %	54.4	35.6 90.0	10.0		
(d) Enhance career prospects	N=89 % Cumulative %	66.3	31.5 97.8	2.2		
(e) Assist re-entry to the job market	N=49 % Cumulative %	20.4	18.4 38.8	32.7	20.4	8.2 28.6
(f) Help change career direction	N=76 % Cumulative %	28.9	25.0 53.9	32.9	11.8	1.3 13.1
(g) Intellectual stimulation	N=87 % Cumulative %	28.7	42.5 7.13	19.5	6.9	2.3 9.2

Not surprisingly, the reason that elicited the most positive response for enrolling in the degree programme was *To obtain a qualification*. Almost all students agreed that this was a reason why they had enrolled, with more than three-quarters of the sample strongly agreeing. None disagreed. However it should be noted that a small number of the respondents indicated that they were already graduates. One had previously gained an MBA. Another wrote, *To complete a BCA at Victoria University* (R85).

Eighty-six students responded to the item related to improving occupational skills and knowledge. It was anticipated that this item would provide a picture of the extent to which the respondents had identified learning needs and a desire to learn skills and knowledge that could be applied in their work. Again, almost all respondents agreed that they enrolled in the degree to improve their occupational skills and knowledge. Over half the respondents strongly agreed. Again, none disagreed.

Ninety per cent of the respondents expressed their agreement with the statement that they enrolled to improve their earning potential, with 54.4% strongly agreeing. While none disagreed, a small number were neutral on this. Likewise, none disagreed with the notion that they had enrolled in order to enhance their career prospects. Two-thirds of the respondents strongly agreed that this was a reason for their enrolling in the degree.

The item related to enrolling in order to re-enter the job market was flawed. This item had only 49 respondents, of whom almost a third were neutral and 28.6% disagreed. The results are unreliable because they are open to a variety of interpretations. At the time the questionnaire was administered, 10.2% of the respondents indicated that they were unemployed. Additional comments on questionnaires returned revealed that a small number of respondents had been either unemployed as a consequence of redundancy or had left the paid workforce for full-time childcare. It is difficult to differentiate the intentions behind a neutral response, a negative response (disagree) and a non-response.

There were 76 respondents to the item *To help me change career direction*. Just over 50% agreed with this statement, with almost a third being neutral and 13.1% disagreeing.

The final item in this question related to a more intrinsic motivation — that of intellectual stimulation. Of the 87 respondents to this item, 71.3% agreed that intellectual stimulation was one of their reasons for enrolling in the degree course. Almost a fifth of respondents were neutral and 9.2% disagreed.

Summary of question 1

The items provided in this question had a strong vocational bias and respondents demonstrated a clear vocational bent. The responses indicate that students were motivated to enrol for a range of reasons. Of particular significance to this research study was that they wanted to enhance their own occupational skills and knowledge (item 1b) and to be recognised by others as having greater skills and knowledge (items 1a, 1c, 1d, 1e, and 1f). Interestingly, the responses showed that, for many, a vocational focus sat comfortably with a desire for intellectual stimulation.

Why study at a distance? (Question 2)

Table 6.2: Reasons for studying at a distance (Question 2)

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
(a) No lectures to attend	N=89 % Cumulative %	53.9	30.3 84.3	5.6	4.5	5.6 10.1
(b) Study in own time	N=91 % Cumulative %	60.4	29.7 90.1	7.7	2.2	2.2
(c) Study at own pace	N=90 % Cumulative %	41.1	33.3 74.4	16.7	7.8	1.1 8.9
(d) Not available locally	N=78 % Cumulative %	23.1	9.0 32.1	19.2	25.6	23.1 48.7
(e) Positive experience with distance education	N=77 % Cumulative %	19.9	29.9 46.6	31.2	19.5	2.6 22.1
(f) Negative experience attending classes	N=74 % Cumulative %	2.7	20.3 23.0	25.7	27.0	24.3 51.0
(g) Cost considerations	N=83 % Cumulative %	13.3	18.1 31.4	43.4	19.9	8.4 28.3

This question explored the reasons respondents had for selecting a distance course rather than attending a contact institution. Eighty-nine students responded to the item *No lectures to attend*. Of these, only 10.1% disagreed, and 5.6% were neutral. More than half the respondents strongly agreed that this was a reason for choosing distance. Six respondents noted that for them a key reason for enrolling in a distance mode course was to be able to study while working full-time. Note that approximately a third of the respondents indicated that they had a previous positive experience with distance education. Four respondents referred to either work-related travel or the prospect of shifting locations as being behind the choice of a distance course. Three respondents added that family responsibilities made lecture attendance difficult.

The strongest response was to the next item. More than 90% of the 91 respondents agreed that they chose distance in order to *Study in own time*. Of these, over 60% strongly agreed, with only 2.2% disagreeing.

Of the 90 respondents to the next item relating to study at their own pace, almost three-quarters agreed with this as a reason for study at a distance. Of these, 41.1% strongly agreed, with 8.9% disagreeing. One of those who disagreed wrote, *You can never study at your own pace. All courses demand regular ongoing commitment so there's an imposed discipline you cannot avoid. Also, if you don't complete your B.Bus in ten years I believe your earlier credits lapse.*

Fewer than a third of the 78 respondents agreed that they enrolled in the distance programme because there was no local option. In contrast, almost half of the respondents (48.7%) disagreed, with 19.2% being neutral.

The responses to the next item need to be treated with caution. Item 2(e) asked students to agree or disagree that one of their reasons for choosing a distance course was that they had had a previous positive experience with distance education. Forty-six point eight per cent of respondents agreed. Similarly, 15 students had opted out by selecting the not-applicable box for item 2e. One can confidently interpret that response as meaning that they had had no previous experience of distance education. While the meaning of an affirmative response or the selection of not applicable to this item is clear, it is less clear what is meant by a response of neutral or disagree.

Almost a third of respondents selected a neutral position, with 22.1% disagreeing. The difficulty lies in identifying what the difference is between a response of neutral or disagree. It is possible that the same reasoning is behind a neutral response and a response of *disagree*. A student may have opted for the neutral position because they have had a mixed experience of distance education or because they don't have a strong attachment to either contact or distance mode. Alternatively, they may have selected *neutral* because they have

lacked prior experience of distance education. Similarly, a student may have opted for *disagree* because they have had no previous experience of distance education or because the previous experience has been negative.

The next item (2f) asked respondents to agree or disagree that previous negative experience attending lectures or classes was one of the reasons they had enrolled in a distance course. Eighteen students indicated that this question was not applicable to them. Of the 74 respondents to this item, over half (51%) disagreed, with more than a quarter selecting the neutral position. Only a quarter of the group agreed.

The next item posited that cost considerations were one of the reasons for choosing to study by distance. There were 83 responses to this item. Of these, less than a third (31.4%) agreed, 43.4% chose the neutral position, and 25.1% disagreed that cost considerations were a reason for enrolling in a distance course.

Students were provided with the opportunity to contribute other reasons for enrolling in the distance option. Seventeen students provided additional comments. Two respondents cited location. For one, distance learning was *easier and safer than going out at night in Auckland* and for the other, *Parking in Auckland City was a deterrent to attending lectures*. For many, the other reasons were work-related, such as travelling with job, and being able to combine full-time work and study. A few cited family and/or childcare responsibilities.

Summary of question 2

In the main, students had chosen to study at a distance because distance mode meant they could study in their own time without having to attend lectures. It also meant that they were able to study at their own pace. Some were able to combine employment and study because of these flexibilities.

What skills ought to be developed in a business degree course? (Question 3)

Table 6.3: Skills a business degree course should develop (Question 3)

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
(a) Solving problems	N=91 % Cumulative %	33.0 89.0	56.0	5.5	5.5 5.5	
(b) Critical thinking	N=91 % Cumulative %	46.2 95.6	49.5	4.4		
(c) Communication	N=90 % Cumulative %	24.4 74.4	50.0	16.7	5.6 8.9	3.3
(d) Use of technology	N=86 % Cumulative %	25.6 54.7	29.1	29.1	15.1 16.3	1.2
(e) Working with others	N=90 % Cumulative %	12.2 41.1	28.9	38.9	15.6 20.0	4.4
(f) Self-management skills*	N=86 % Cumulative %	27.9 79.1	51.2	9.3	9.3 11.6	2.3
(g) Learning to learn	N=88 % Cumulative %	18.2 63.6	45.5	22.7	11.4 13.7	2.3
(h) Subject-specific expertise	N=87 % Cumulative %	63.2 95.4	32.2	3.4	1.1 1.1	

* time management/self-confidence/planning/determination

Question three examined the views of the students on whether a course such as theirs should develop students' skills in generic skill areas. They were then provided with a list of generic skills: solving problems, critical thinking, communication, use of technology, working with others, self-management, learning to learn, and a category of other.

There were 91 responses to the first item related to problem-solving skills. Almost all (89.0%) agreeing, with only 5.5% disagreeing.

The strongest response in this section was to the next item: critical thinking. There were 91 responses to this item with none disagreeing, and 95.6% agreeing, of whom almost half (46.2%) strongly agreed.

The response was more lukewarm to the next item, which related to communication skills. While only 8.9% disagreed that a course such as theirs should develop communication skills, less than a quarter of the students (24.4%) strongly agreed. Sixteen point seven per cent were neutral.

There were 86 responses to the next item, of which just over half (54.7%) thought the course should develop skills in technology, 29.1% were neutral, and 16.3% disagreed. It is likely that the six students who had decided that this item was not applicable to their course were also in essence disagreeing.

The next item related to working with others. Only 41.1% of the 90 respondents agreed that this was a skill that should be developed in a course such as theirs. A sizeable number chose a neutral position (38.9%), and one in five disagreed.

Eighty-six students responded to the item related to self-management. Examples provided to respondents of what was meant by self-management were time management, self-confidence, planning, and determination. It is noteworthy that 79.1% of respondents agreed that the course should develop self-management skills, while 11.5% disagreed.

Almost a quarter of the respondents were neutral in their response to the question as to whether the course should develop their skills in learning to learn, 63.6% agreed, and 13.7% disagreed.

There were 87 respondents to the item related to developing subject-specific expertise. Not surprisingly, 95.4% agreed, with almost two-thirds strongly agreeing.

Summary of question 3

In summary, nearly all respondents agreed that a course such as theirs should develop subject-specific knowledge, critical thinking, problem-solving and self-management skills. More than 50% agreed that communication, learning to learn, and use of technology should be developed through the course. Fewer than 50% of the group thought that the course should develop skills in working with others.

Why enrol in this particular course? (Question 4)

Table 6.4: Reasons for enrolling in this particular course (Question 4)

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
(a) Lacked knowledge skills and understanding in specific subject area	N=83 % Cumulative %	9.6	28.9 38.6	36.1	20.5	4.8 25.3
(b) Relevant to current work	N=82 % Cumulative %	17.1	37.8 54.9	25.6	15.9	3.7 19.6
(c) Compulsory course or core requirement of degree	N=90 % Cumulative %	78.9	13.3 92.2	6.7	1.1	1.1
(d) Prerequisite	N=78 % Cumulative %	35.9	10.3 46.2	41.0	7.7	5.1 128
(e) Appeared to be easy	N=78 % Cumulative %	3.8	1.3 5.1	32.1	41.0	21.8 62.8
(f) It looked interesting	N=84 % Cumulative %	9.5	39.3 48.8	31.0	16.7	3.6 20.3

This question explored the reasons why students had enrolled in the particular course. The first item was I *lacked skills, knowledge and understanding re: [subject]*. Interestingly, nine students indicated that this statement was not applicable to them. Only 38.6% agreed that this was a reason they had enrolled in the particular course. Of the 83 respondents, over a third (36.1%) chose the neutral position. A quarter of the respondents (25.3%) disagreed. In contrast, over half (54%) of the 82 respondents agreed with the next item, related to perceived relevancy of the course to their current work. Over a quarter chose the neutral position, with only a fifth of respondents disagreeing (19.6%). A number of students provided additional reasons for enrolling. Two students indicated that they enrolled in a particular course to satisfy requirements for registration with a professional body, in this case the accounting body, ICANZ. For 92.2% of respondents a reason for enrolling in a particular course was either that it was a core requirement of the degree or was a compulsory course in their major. Only 1.1% disagreed.

Almost half of the respondents agreed that they had enrolled in the course because it was a prerequisite to another course, with only 12.8% disagreeing. The next item stated that the course appeared easy and this evoked a solid response, with 62.8% disagreeing and only 5% agreeing. Almost half of the respondents agreed that one of the reasons for enrolling was that the course looked interesting, with a fifth of the group disagreeing.

Summary of question 4

In summary, respondents enrolled in these particular courses because they were required to for either the degree or for their major. Relevance to their current job/work was also seen as a reason. Interestingly, most were not motivated by a perceived lack of knowledge, skills and understanding in the area.

The actual course (Questions 5–14)

The next section dealt with the students' experience of the course. They were asked to recall what was covered, how it was covered, and their own learning. Most of the items in this section were relating learning to work in some way. The response rates were likely to have been influenced by the small number of students who were not in employment at the time of doing the course, or who were working in unrelated areas.

For question 5, respondents were asked to select their response to the following statement: *I found the course significantly improved my specialist knowledge, skills and understanding of* [subject specified]. Almost 80% of the 89 respondents agreed they found that the course significantly improved their knowledge, skills and understanding in the specific subject area. Only 10.1% disagreed. It is noteworthy that in an earlier item probing reasons for enrolling in the specific course, less than 40% agreed that a lack of skills, knowledge and understanding was a reason for enrolling (see **Table 6.4**).

For question 6, respondents were asked to select their response to the statement: *I found the course content was relevant to my work/job*. More than two-thirds of the 83 respondents agreed that the course was relevant to their work. Only 12% disagreed. Again, this is significant in relation to reasons for enrolling in the course (see **Table 6.4**).

The next question was the statement: *The course used up-to-date workplace examples*. There were 88 respondents to this item. It was agreed by 56.8% of respondents that the course used up-to-date workplace examples, with only 7.1% disagreeing (see 7, **Table 6.5**).

Question 8 was concerned with the respondents' perceptions of the degree to which *Teaching staff involved in the course had kept up-to-date with current workplace practices*. A similar response rate was reflected for the item on teaching staff being involved in keeping the course up-to-date with current workplace practices. The number opting for the neutral position was slightly higher at 37.9% (see 8, **Table 6.5**).

Question 9 consisted of the statement: *Able to use real-life work problems and/or situations for assignments and tasks*. A positive response was received to this item, almost three-quarters of the 87 respondents agreeing and only 5.7% disagreeing.

Question 10 explored respondents' views on whether course content was relevant to the New Zealand context. Most respondents (86.4%) agreed that the content was relevant, with almost a third strongly agreeing (see **Table 6.6**).

Table 6.5: Responses to Questions 5–9: The actual course

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
(5) Course significantly improved subject-knowledge, skills and understanding	N=89 % Cumulative %	29.2 78.7	49.4	11.2	10.1 10.1	
(6) Found course relevant to work/job	N=83 % Cumulative %	12.0 67.5	55.4	20.5	10.8 12.0	1.2
(7) Up-to-date workplace examples	N=88 % Cumulative %	18.2 56.8	38.6	34.1	6.8 7.1	2.3
(8) Teaching staff up-to-date with current workplace practices	N=87 % Cumulative %	14.9 55.2	40.2	37.9	5.7 6.8	1.1
(9) Able to use real-life work problems/situations for assignments/tasks	N=78 % Cumulative %	3.8 5.1	1.3	32.1	41.0 62.8	21.8

Table 6.6: Response to question 10: The actual course — relevance to New Zealand

		All	Most	Some	Very little	None
(10) Course content was relevant to the New Zealand context	N=88 % Cumulative %	31.8 86.4	54.5	12.5	1.1	1.1

Question 11 related to whether the course was too theoretical and received a mixed response from the 90 respondents. Over a third of the respondents chose a neutral position, with almost half disagreeing. This still left 17.7% agreeing. It was presumed that those selecting the neutral response neither agreed nor disagreed (see **Table 6.7**).

The question that followed presented respondents with the statement: *While doing the course I tried out practical ideas learned in my work*. There were 79 respondents to the item. Of these, 57% agreed, with 19% disagreeing (see 12, **Table 6.7**).

However, the next item (question 13), on reflecting on learning in terms of its applicability to job, had 82 respondents, of whom over three-quarters (75.6%) agreed, with 20.7% strongly agreeing. Six per cent disagreed.

Question 14 was the statement: *During the course I discussed what I was learning with colleagues*. There were 84 respondents to this item. While 23.8% never discussed what they were learning, 70% of respondents had discussions with colleagues occasionally or more frequently (see **Table 6.8**).

Summary of questions 5–14

The responses to this section suggest that both what students learned and how they learned it were relevant to their workplaces. Students also actively sought to relate learning to work in that they tried out ideas, reflected on what they were learning, and at times discussed it with colleagues.

Table 6.7: Responses to questions 11–13

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
(11) Course was too theoretical	N=90 % Cumulative %	4.4 17.7	13.3	34.4	35.6 47.8	12.2
(12) While doing the course tried out practical ideas learned in work	N=79 % Cumulative %	12.7 57.0	44.3	24.1	19.0 19.0	
(13) During the course reflected on applicability of learning to job	N=82 % Cumulative %	20.7 75.6	54.9	18.3	6.1 6.1	

Table 6.8: Response to Question 14: Discussion with colleagues

		All the time	Often	Occasionally	Once	Never
(14) During the course I discussed what I was learning with colleagues	N=84 % Cumulative %	2.4 70.2	20.2	47.6	6.0 29.8	23.8

What resources were useful in helping students transfer learning to their jobs/work? (questions 15–18)

Table 6.9: Question 15: How useful were the following in helping students apply what was learned on the course to their own workplace situation?

Course materials		Excellent	Very good	Good	Fair		Poor	N/A
(a) Content	N=84 % Cumulative %	20.2	32.1 85.6	33.3	10.7	14.3	3.6	
(b) Readings	N=83 % Cumulative %	8.4	34.9 75.8	32.5	19.3	24.1	4.8	
(c) Textbooks	N=79 % Cumulative %	29.1	25.3 83.5	29.1	11.4	16.5	5.1	
(d) Case studies	N=78 % Cumulative %	14.1	38.5 80.8	28.2	17.9	19.1	1.2	
(e) Assignments/ Assessments	N=83 % Cumulative %	19.3	34.9 84.3	30.1	14.5	15.7	1.2	

The number of respondents to this item varied from 78 to 84, indicating that a small number were unemployed and that others were working in occupations unrelated to the course. In general, they found that the course materials were useful in assisting them to apply what they had learned.

Table 6.10: Question 16: Usefulness for transfer of contact with lecturer through various media

		Excellent	Very good	Good	Fair	Poor	N/A
(a) Feedback/ comments on work	N=85 % Cumulative %	20.0	18.8 76.4	37.6	18.8	4.7 23.5	
(b) Discussions via phone/ email/mail	N=66 % Cumulative %	19.7	19.7 68.2	28.8	19.7	12.1 31.8	
(c) Other contact with lecturer	N=4 % Cumulative %	75.0	75.0			25.0 25.0	

More than three-quarters of the respondents found comments from lecturers useful in applying learning in workplace situations.

Table 6.11: Question 17: Usefulness of contact with other students for transfer of learning?

		Excellent	Very good	Good	Fair	Poor	N/A
(a) Email	N=21 % Cumulative %	4.8	9.5 38.1	23.8	9.5	47.6 57.1	
(b) Phone calls	N=19 % Cumulative %		15.8 36.9	21.1	10.5	52.6 63.1	
(c) Audio-conferences	N=15 % Cumulative %		13.3 20.0	6.7	20.0	60.0 80.0	
(d) List-serv	N=21 % Cumulative %	9.5	4.8 42.9	28.6	14.3	42.9 57.2	
(e) Study groups	N=19 % Cumulative %		10.5 31.6	21.1	21.1	47.4 68.5	

These items were responded to by less than a quarter of all respondents, reflecting the lack of interaction among students on the courses. In contrast to the positive contribution that contact with teaching staff was seen as having on applying learning in the workplace, the contact that did take place between students was seen negatively in terms of applying learning in workplace situations. This result was surprising as it had been anticipated that students would have gained from sharing experiences of workplace applications.

Additional comments made on questionnaires included the following:

No real student contact took place (R65).

Didn't contact any others [answered poor to all] (R79).

Didn't get list of students (R27).

No contact made (R86).

Contact tutorial was very good. (R90).

Table 6.12: Question 18: How useful were initiatives taken by individuals in helping apply learning to workplace situation?

		Extremely useful	Very useful	Useful	Not very useful	Of no use	N/A
(a) Discussions with friends/families	N=66 % Cumulative %	7.6	7.6 65.2	50.0	21.2 34.8	13.6	
(b) Discussions with	N=60 % Cumulative %	8.3	28.3 88.3	51.7	8.3 11.6	3.3	
(c) Self-reflection	N=75 % Cumulative %	14.7	40.0 96.0	41.3	4.0 4.0		
(d) Observation of practices in other organisations	N=67 % Cumulative %	14.9	44.8 89.6	29.9	9.0 10.5	1.5	

The highest response rate among the group of self-initiated items that assisted applying learning in the workplace was that of self-reflection. There were 75 respondents to this item, of whom 96% rated it as useful or better. Only 4% rated it as not very useful. Of the 67 respondents to the item: *Observation of practices in other organisations*, almost 90% rated this useful or better, with more

than half of the respondents seeing it as at least very useful. Sixty respondents rated discussions with colleagues or managers, of whom 88.3% found it useful or better, with only 11.6% having a negative response. Although discussions with friends and families had an overall positive response, it was the least positive of the items, with just over a third of respondents rating it negatively.

Summary of questions 15–18

In summary, most respondents found that course materials and feedback from lecturers were useful in terms of transfer of learning. There was little evidence of contact with fellow students, and what little occurred was seen negatively. In contrast, students did discuss what they were learning with colleagues, managers, friends and family. Additionally, most found reflection useful in applying learning in their workplaces.

After the course

Table 6.13: Question 19: Students' views on the impact the course had on their job/work

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
(a) More competent in aspects of job related to course	N=83 % Cumulative %	22.9	47.0 69.9	24.1	4.8	1.2 6.0
(b) Greater subject-specific knowledge	N=89 % Cumulative %	41.6	46.1 87.7	9.0	3.4	3.4
(c) Greater understanding of specific subject	N=89 % Cumulative %	34.8	53.9 88.7	7.9	2.2	1.1 3.3
(d) Developed problem solving skills	N=89 % Cumulative %	7.9	43.8 51.7	37.1	9.0	2.2 11.2
(e) Further developed critical thinking skills	N=90 % Cumulative %	14.4	52.2 66.6	24.4	6.7	2.2 8.9
(f) Improved communication skills	N=90 % Cumulative %	5.6	31.1 36.7	45.6	14.4	3.3 17.7
(g) Work better with others	N=85 % Cumulative %	3.5	17.6 21.1	54.1	21.2	3.5 24.7
(h) Better at managing self	N=89 % Cumulative %	7.9	29.2 37.1	42.7	16.9	3.4 20.3

The respondents were asked to think of the impact that the course had on their jobs or work in relation to a number of skill areas. This question is the one that most closely relates to performance on the job. There were 83 respondents to the first item, that of being more competent in course-specific areas; for example, if the course was an accounting course, the respondent was asked to rate the item *More competent in aspects of job related to [accounting]*. Most (69.9%) respondents agreed that they were more competent, with only 6% disagreeing. One of those who disagreed wrote: *I already held an MBA so had already covered the subject*. Almost a quarter of respondents selected the neutral position. Neutral would be

an appropriate choice for those for whom there was no scope to utilise skills acquired from the course within a current role. It would also be the choice of those who enrolled in the course for credentialling purposes and already regarded themselves as competent in the area.

The next item considered whether or not respondents had a greater subject-specific knowledge from doing the course: for example, if they had been enrolled in a management course, did they now have a greater knowledge of management theory and practice? There was a more positive response to this item from the 89 respondents with 87.7% agreeing that they had a greater knowledge of the subject. Of these, 41% strongly agreed. Only a small number disagreed and 9% were neutral.

Did they have a greater understanding of the subject? A resounding 88.7% agreed that they had a greater understanding of the subject, with only 3.3% disagreeing. One in three strongly agreed.

Respondents were less positive about generic skills. Just over half of the 89 respondents agreed that they had developed their problem-solving skills. However, 11.2% disagreed, and 37% chose the neutral position.

Of the 90 respondents to the item on critical thinking skills, two-thirds (66.6%) agreed that they had further developed their thinking skills, with 24.4% selecting the neutral response and 8.9% disagreeing.

This response contrasted sharply with the response for communication skills, where almost half the respondents (45.6%) selected the neutral position, 17.7% disagreed that their communication skills had improved, and 36.7% agreed that their communication skills had improved.

There was similarly a negative response to the item *Work better with others*, with more than half of the 85 respondents (54.1%) being neutral. A number indicated that this item was not applicable to them as they did not work with others. Almost a quarter of respondents (24.7%) disagreed, with only 21.1% agreeing.

One in five of the 89 respondents to the item *Better at managing self* disagreed. Only 37.1% of respondents agreed that they were better at managing themselves and 42.7% opted for the neutral position.

One respondent noted. *Enhanced my accounting analysis skills. Look further than the bottom line net profit (loss); started to think about future possibilities for clients' businesses.*

Summary of question 19

In summary, within the context of work, the respondents felt they were more competent, more knowledgeable and had a greater understanding of the particular subject area. They thought that they had further developed their critical thinking skills. Most felt that they had not improved their communication skills, their ability to work with others, or their self-management skills. Half of the respondents felt that their problem-solving skills had improved.

Open-ended questions: 20–24

The questionnaire provided frequent opportunities for respondents to add additional comments or to identify additional options. In most cases only a few respondents did so. As well, the questionnaire contained five open-ended questions and the responses to these are reported in the following sections.

Question 20: Benefits of the course

Respondents were asked to complete the sentence *For me the best thing I gained from the course was ...*

Seventy-seven of the 92 respondents completed the sentence and identified a range of benefits. The responses were grouped into categories according to the similarity of the benefits identified. While some responses fitted more than one category, they were placed in one only, the one the response was deemed most like. The six categories are shown in **Table 8.14**, together with numbers of respondents. For almost a half of the respondents, the best thing they gained from the course was an improved general knowledge of the subject area. One wrote: *An understanding of company accounts and a knowledge of the field of accounting that I enjoy* (R36).

Another group of 15 respondents identified a particular aspect of the course. While most referred to understanding a specific component of the course, others referred to procedural knowledge, or how things were done on the course. An example was *Work thru [sic] practical examples* (R71).

Fifteen of the respondents indicated that the best thing for them was passing or gaining a qualification. These responses have been categorised as *credential*. One expressed it this way: *Another paper closer to my degree*. Two respondents

provided the same ambiguous response: *A pass* (R7 and R50). Did this mean that they were pleased to have passed the course, or did it mean that they were pleased that they had received an 'A' grade pass? Another student conveyed pleasure in learning in their response: *Achieving a pass in my first degree-level paper that was a highly interesting and enjoyable paper* (R64).

One of the surprising features of the responses was that only seven of the 77 respondents identified work-related items in completing the sentence: *For me the best thing I gained from the course was ...* One student said: *More in-depth understanding of how to complete tasks at work and why I am doing it [sic]* (R44). However, an additional 20 responses, which have been categorised as either general subject knowledge or one of the other categories, could be said to be inferring workplace application. For example, one student said: *A better comprehensive understanding of [named subject] and its relation to the workplace* (R18).

The fifth category covered responses that identified skills variously called generic, transferable, or essential skills but that are categorised here as essential skills. Included in this category are what are referred to as *dispositions*. There were six responses in this category. Three of them, all from the level three course, wrote of thinking skills. The other three responses were from level one courses. Those relating to thinking were very similar. One wrote: *The development of broader thinking; the confidence to talk about this to appropriate people* (R81).

The comments in this category from the students who completed the level-one courses are of interest and all three follow:

Confidence to do level 6 courses. An easy start back into studying (R22).

Learning to learn again as it is a while since I studied (R20).

The courses are not so easy but I am determined to do my best in the future (R3).

The responses were also analysed to identify whether or not the level of the course, or the actual course, were significant factors. Just over half of those responses that fitted into the category of *General knowledge/understanding* were referring to a level one course. Four of the seven responses categorised as *Application to work* were from accounting students.

Table 6.14: Best thing gained from course (n=77)

	n	%
1. General subject knowledge/understanding	33	43
2. Credential	15	20
3. Specific skill/knowledge from course	15	20
4. Application to work	7	9
5. Essential skills	6	8
6. Other	1	–

Question 21: Application of learning in the workplace

In question 21, respondents were asked to list three things gained from the course that they had adapted or applied in a workplace or community setting. There were 65 respondents to this item and they identified a range of things applied. Thirty-four respondents identified three things, 18 provided two, nine provided one, and four either wrote *N/A* (not applicable), or wrote *nothing*. The total number of items provided was 151. Analysis of the data identified five categories of responses. The first category consisted of responses where respondents cited general knowledge and understanding. An example of this category was: *A wider understanding of IT* (R27). Such responses differed from those where the respondents cited the second category, application of specific knowledge, understanding or skills to the workplace; for instance, *Discussion of some of the ethical issues with information, privacy and information use (R31)* or *Team behaviours and how to get the best from a team* (R52). The third category of responses was that of technical or practical skills. Forty per cent of the responses fell into this category. Twenty-seven of the 60 items in this category were from accounting students, with responses such as *Analysing company reports* (R33). The fourth category comprised those responses that referred to essential skills or dispositions. Interestingly, nearly all the responses in this category came from two courses, one a level one course, and the other a level three applied course. Some of the students cited *Self confidence* (R19) and *Organisation of work* (R24), others such attitudes or dispositions as *Caution in all*

things legal (R9) and *Having an open mind to other people's ideas and suggestions* (R84), others practical skills, such as *Better report writing/written communication skills* (R27) and *Ability to search for information, researching* (R73).

Table 6.15: Type of learning applied

		n	**%**
1.	General knowledge from the course	13	9
2.	Specific knowledge from the course	39	26
3.	Technical/practical skill from the course	60	40
4.	Essential skills/dispositions from the course	35	23
5.	Nothing applied	4	3

Question 22: Barriers

This question explored barriers to transfer of learning. Respondents were asked to list three things which prevented them being able to apply what they learned on the course to their work or other real life setting. There were 54 respondents to this question; just over half of all respondents answered this question. Most only provided few or no barriers:

- Ten (19%) provided three barriers.

- Sixteen (30%) provided two barriers.

- Twenty-six (48%) provided one barrier.

- Two (4%) identified none or N/A.

The responses were sorted into six categories. The sixth category was those who had not experienced barriers as yet. The first category, *Lack of opportunity*, was made up mainly of those whose role or position in their organisation did not provide them with the scope to put their learning into practice, for example, *My current position is at operational level* (R77). This was the case for many of the level three management students. It also included those who were either not currently employed or not working in an appropriate environment. Most of the law students who responded were in this category.

The second category was made up of those who lacked confidence or felt that they did not know enough to apply, for example, *Not confident from doing the course about how to apply [cites course] to real life fact situations* (R12).

The third category comprised barriers in the transfer situation or environment. These barriers included *Other people*, resources, and a lack of technology. They also included time and work pressures, for example, *The directors at work and their lack of understanding re [the subject] prevented any new ideas going ahead* (R25).

The fourth category comprised comments about the course itself. Some questioned its relevance to the workplace, others the focus, for example, *Big business focus of course difficult to apply to NZ's mainly small business problems* (R81). Others suggested that the course was either too theoretical or that it did not place enough emphasis on practical skills.

Table 6.16: Barriers to transfer

	N=90	%
1. Lack of opportunity	32	36
2. Learning inadequate	6	7
3. Transfer situation	26	29
4. Inappropriate course material	19	21
5. Other	5	6
6. No barriers	2	2

Question 23: Ways to enhance relevance of course to workplace

What did students think could be done to make the course more relevant to the workplace? Thirty-five students (35% of all respondents) responded to this question with a total of 64 suggestions:

• Eleven provided three suggestions.

• Seven provided two suggestions.

• Seventeen provided one suggestion.

A significant number of the suggestions were calling for changes that would enable them to make connections between the course material and their own situation. For some, this meant more examples of putting the theory into practice; for others it meant using examples that made sense in terms of the learner's context, by including either New Zealand material or examples of small businesses and organisations outside the manufacturing sector.

While the number of respondents from each of the five courses was relatively small, some patterns did emerge. For instance, four of the five law students who responded made suggestions about making the material relevant to a business setting. They saw the current material as suitable for lawyers, not managers. Three of the computing students suggested that the material needed updating. Of nine students of a knowledge-based management course, five suggested that there be less theory and more examples of application. All of the suggestions for more New Zealand material came from the students on the two management courses.

Table 6.17: Suggestions to enhance workplace relevance of course

	n	%
1. Update materials	6	9
2. More NZ content and examples	4	6
3. Type and size of organisations used	4	6
4. Practical examples	24	38
5. Real life assignments	7	11
6. Other	13	20
7. No changes required	6	9

Question 24

This question invited respondents to add any other comments that they would like to make about either the course or about the transfer of learning to the workplace. Almost a third of all respondents provided comments, and some were quite detailed.

Of the 30 comments, 15 were focused on the course itself and the other 15 on the question of transfer of learning. The comments in relation to the course were diverse and included comments on the examination, staff, workload, content, and moves to gain recognition from The Open University in the United Kingdom. One example was: *For a full-time worker it is a lot of work each week to fit in. Possibly if the semester could be lengthened or more flexible* (R20). Two students from the one course had different views: *I thought it was very helpful indeed*, wrote one (R9), whereas a classmate thought: *The material was boring. Why not use exciting cases and examples*? (R11).

Most of the comments made about transfer of learning were positive, although three were negative. Two follow:

I felt I gained very little from this course in terms of being able to transfer learning to my workplace situations. I feel this course should only be compulsory for a major in management. I do think it will be of benefit to me in the future - if I am involved in managing the strategy of an organization. I did not enjoy the course at all (R83).

As a mature student, I find it frustrating to know that much of the course work I need to do does not relate to my working situation. This is applicable not only to this paper but to many other papers also (R7).

Some of the respondents were not in employment, and for such students the applied focus of some courses proved a challenge:

I found that [name] the tutor was excellent at helping me realise that this subject is applicable whether you are working or not and he showed me how to apply [it] to volunteer work and organizations which I am involved in and also to my own family in forward planning and looking at options. Excellent tutor (R88).

When/if I move into practice accounting the skills will be usefully applied in client strategic analysis. I've a good library of reference books, which I do refer to as needed. It was a good paper, I enjoyed the work, but realize I may never apply the skill (R86).

This chapter reported on the results of a postal survey of distance learners who had completed selected courses in the Bachelor of Business. The results and their implications for the current study are discussed in the following chapter.

Discussion survey findings

Introduction: Summary of findings

Respondents had a strong vocational orientation and were seeking both a business degree and intellectual stimulation. Typically, they had chosen to study by distance because of the opportunity that it gave them to study in their own time and at their own pace and thus to combine employment and study. Most enrolled in the course because it was compulsory and relevant to their work. Respondents related what they were learning to their work through trying out ideas, discussions, and reflection. They reported improved subject-related competency at work, knowledge, and understanding. As well, they acknowledged they had developed their critical thinking. Less confidence was expressed in terms of the gains in other generic skill areas. The chief barriers to transfer of learning for the respondents were a lack of opportunity to put learning into practice and a lack of support in the workplace. Some suggested that transfer of learning would be enhanced by greater connection to the learner's work and by more examples that were authentic, practical, and local. The overall impression was one of satisfaction with the courses and with the level of transfer of learning from the courses to the workplace.

Purpose of the survey

The purpose of the survey was to explore the experiences of learners in The Open Polytechnic's Bachelor of Business in relation to the transfer of learning. The survey was shaped by diverse explanations of transfer taken from the literature and presented earlier in this thesis.

The primary focus of the chapter is on the factors that may influence learning to transfer skills, knowledge, and attitudes gained on a course to the workplace.

Part A: Before the course

Typically, studies of transfer of learning have looked at the transfer from the viewpoint of the education or training provider. For instance, studies have focussed on instructional design for transfer or the intended outcomes of the programme and how successful the learners were in transferring those outcomes to the work situation. One of the significant differences of the current research is that it explores transfer from the perspective of the learner. One

aspect of that is considering the motivations, the expectations and the needs that the learner brought to the learning programme. Mature-aged adults enter higher education with diverse personal histories and motivations. The focus of this section is on the needs of the individual learners in this study. Why did they enrol in the Bachelor of Business? What were their motivations, reasons, expectations, and goals in relation to the Bachelor of Business? This particular Bachelor of Business was a distance programme, so what motivated them to enrol in a distance programme? What motivated them to enrol in the particular course being surveyed? What did they expect to learn from the course?

Motivations, reasons, expectations, and goals are all complex concepts, which, in order to ensure that the questionnaire could be completed in a reasonable time frame, were explored somewhat superficially. There is contestation over the meanings of each of these concepts, and in everyday language they are sometimes used interchangeably. The first part of the questionnaire imposed a conceptual framework on respondents. The framework included a range of motivating factors for people enrolling in a degree programme. Respondents were asked to respond to a number of items related to some key questions.

The 92 respondents were enrolled in an 18-paper Bachelor of Business degree at The Open Polytechnic of New Zealand. In 1999, albeit within the requirements of specific degree majors, students had a choice of 80 courses in that degree. The survey sample was drawn from five of those courses. For some in the sample the surveyed course was the 18th or, in the case of those meeting ICANZ requirements, the 20th course they had completed. For a few it was their first course towards the degree.

An axiom of educators is that learning requires motivation. If a student wants to learn, they will learn. If they are not interested in a subject, they will not learn:

> The reasons for engaging learning are simple and direct in the everyday context and are expressed as a felt need to know. You do not need the concept of motivation to explain why a teenager learns to drive a car; you do need that concept to explain why that same person does, or does not learn mathematics. (Biggs, 1989, p. 23)

Some theorists suggest that learners need to be motivated to transfer learning (Baldwin & Ford, 1988; Haskell, 2001). Regardless, for transfer to occur, something must first have been learned. What is learned is shaped by motivation.

Unlike learners in studies of transfer of learning in organisational settings, the learners in the current study were not required to study. They had freely chosen to study, and in some cases had spent considerable time identifying where and what to study. Almost three-quarters of the respondents were employed full-

time. A number indicated that childcare or family responsibilities were significant for them. Students in New Zealand generally consider the financial costs of higher education to be onerous. Given these factors, to complete a higher education course through a distance education institution requires a high degree of self-management and commitment. A distance learner has to be self-directing, managing when, where, and how they engage with their study materials and assignments. It is reasonable to conclude that the group surveyed had a high level of personal motivation because most had completed more than one course in the degree programme.

Why enrol in the Bachelor of Business?

The respondents had multiple aims, intentions, and goals for enrolling in the degree programme. Almost all respondents enrolled in the degree programme because they wanted the qualification. In terms of transferring learning to the workplace, it was notable that nearly all wanted to improve their occupational skills and knowledge and to enhance their career prospects. Importantly, almost three-quarters of respondents agreed that intellectual stimulation was a reason for their enrolling in the degree. Intellectual stimulation has connotations of challenge, love of learning, and depth of learning (Entwistle & Ramsden, 1983; Marton et al., 1984).

Orientation to study has been identified as a key factor in learning by a number of educational researchers (Biggs, 1987; Entwistle & Ramsden, 1983; Marton, Hounsell, & Entwistle, 1984; Olgren, 1998; Strang, 1987; Taylor et al., 1981). Biggs developed a typology of learning orientation based on motivation or felt need. In Biggs's model there are three types of learning orientation: surface, deep, and achieving. Surface learning is driven by an extrinsic motivation, such as gaining a qualification in order to gain approval or meet someone else's standards. A deep orientation to learning is motivated by intrinsic concerns: curiosity about the subject matter, the desire to become more knowledgeable and skilled in an area. A learner with an achieving orientation would be motivated by the desire to achieve high grades. If a learner wants to achieve high grades in order to impress others, this would be seen as a combined surface-achieving orientation. If the learner wanted to achieve high grades as a way of demonstrating to herself that she had got on top of a subject, that would be seen as a deep-achieving orientation.

Not surprisingly, respondents enrolled in the Bachelor of Business because they wanted a qualification. Likewise, they enrolled in the business degree because they wanted to improve their occupational skills and knowledge in order to improve their career prospects and their earning potential. None of the

respondents disagreed with these statements. From the results, it is reasonable to assume that, in enrolling in a business programme, the learners wanted the learning to be relevant and applicable to their everyday working world. They wanted to develop their existing skills and knowledge to a sufficient level to enhance their career and earning potential. In other words, the respondents shared a vocational orientation.

Distinctions have been made between extrinsic and intrinsic motivation. Yet these categories are often interwoven because of the way they work together to provide the motivation for learners in educational and vocational settings. For instance, in the literature discussed, reasons for enrolling in the degree such as the gaining of a qualification, improved career prospects, and improved earnings would be categorised as extrinsic motivations. But intrinsic motivations such as improved self-esteem and the quest for a better quality of working life are also dependent on those reasons.

In terms of Biggs's and others' classifications, enrolling for qualification, career and earnings reasons would indicate extrinsic motivation and be associated with a surface approach to learning, or a surface-achieving approach. In such an approach, the goal of the learner would be to pass the course, not to learn for meaning. It is clear even from the items in question one that the respondents wanted their learning to be meaningful. They wanted to enhance their occupational skills and knowledge, and they wanted intellectual stimulation. This would be classified as vocational-intrinsic in terms of the typology presented earlier, as a deep approach in keeping with Biggs's classifications (1987). (Interestingly, only 10% of the group disagreed with the item that intellectual stimulation was one of their reasons for enrolling in the degree.)

Importantly in terms of this discussion, the results demonstrated that respondents enrolled for multiple reasons, which, while vocational in orientation, were shaped by both extrinsic and intrinsic interests.

Why study at a distance?

The Bachelor of Business was promoted to prospective students as providing the opportunity to study at one's 'own time, own space, and own pace'. The courses that were the foci of this study were distance learning courses. This meant that there was a marked difference in the learning environment and what was required of the student between disstance learning and conventional face-to-face institutions. Prospective students were likely to have been aware that they would have limited, if any, contact with other students. Likewise,

there would be limited contact with teaching staff. Many of the students had already completed one or more distance courses and were experienced distance learners. They knew what was involved in distance learning.

The results of the question are in keeping with other studies on reasons for choosing a distance mode of learning. Previously in this thesis, it was noted that the literature suggests that there are three main reasons why students opt to study by distance: convenience, flexibility, and adaptability. Distance education was seen as enabling adults to combine learning and living with learning and earning and as contributing to the massification of higher education by overcoming barriers to access.

What is clear is that distance education provided these respondents with access to a professional qualification and the ability to develop occupational skills and knowledge in situations where there were access barriers (location, work commitments, and other responsibilities) to conventional contact institutions.

What skills ought to be developed in a business degree course?

The survey found that the respondents expected a business course to develop expertise in specific subject areas, such as management, and also in generic skills, particularly the skills of critical thinking (96%), problem solving (89%), and self-management (79%). Most were enrolled in the particular course because it was a required course in either the degree or their major. Surprisingly, most did not enrol because they felt a lack of skills and knowledge in the area.

Generic or essential skills have been discussed in a number of contexts in this thesis: in reference to the debate over whether transfer is specific or general; in descriptions of The Open Polytechnic Bachelor of Business and the emphasis placed there on developing generic skills; and in descriptions of how the degree is promoted.

Both sides of the debate over generic skills would agree that skills such as problem solving are developed in a particular subject or domain and that such skills could be transferred to new situations within that domain. The disagreement lies in whether or not such skills are transferable to *different* subjects or domains. The proponents of situated cognition (Billett, 1994; Brown et al., 1989; Greeno et al., 1993; Lave & Wenger, 1989; Misko, 1999) argue that skills and knowledge need to be developed within the contexts in which they will be used and suggest that it is extremely difficult to transfer learning from the 'classroom' to the workplace.

The survey did not go beyond the subject context but did establish that the respondents expected such a course to develop generic skills. Respondents were presented with items specifically relating to a number of generic skills and the only item which fewer than 50% of the respondents agreed should be developed in such a course was *Working with others*.

Why this course?

Most enrolled in the particular course because it was a requirement of the degree or their major. But this was not the only reason for most. In the literatures on learning and on transfer of learning, the sense of needing to know is sometimes identified as a significant factor (Misko, 1995; the 'spirit of transfer', for example, Fogarty et al., 1992; Haskell, 2001). One of the surprise findings of the survey was that fewer than 50% of respondents agreed that a lack of skills and knowledge in the subject was a reason for enrolling. A significant number disagreed that they lacked skills and knowledge in the area. One management student noted that he already had an MBA. However, more than 50% of the respondents agreed that one of their reasons for enrolling in the specific course was its relevancy to their work. A course looking easy was not a popular reason for choosing to enrol in a course, with only 5% agreeing that was a reason for enrolling. In contrast, almost 50% agreed that a course looking interesting was a reason for enrolling.

The actual course experience

Over two-thirds of the respondents agreed that what they were learning was relevant to their work and that they were able to use real work problems for assignments and tasks. Most reported a significant improvement in their skills, knowledge, and understanding in the subject area. It should be noted that the responses to an earlier question revealed that a significant number or respondents did not feel that they were lacking in skills, knowledge, and understanding in the subject area when they enrolled. However there was some ambivalence in their views on three areas: currency of course materials; whether teaching staff were up-to-date with current workplace practices; and whether the course was too theoretical. Although most agreed, at this point in the questionnaire, that the course material was relevant to the New Zealand context, later, in response to open-ended questions, a number of respondents identified the need for more New Zealand material.

While fewer than 50% of respondents disagreed with the statement that the course was too theoretical, almost 60% agreed that they had tried out practical ideas learned on the course in their work. Importantly, in terms of cognitive theories of learning and transfer (for example, Bransford & Schwartz, 1999), more than three-quarters of the respondents had reflected on what they were learning in terms of its applicability to their work. As well, most discussed what they were learning with colleagues or managers at least once. The respondents saw course materials and activities as relevant to their workplaces. The respondents were active learners, who were reflecting on what they were learning, trying out ideas, and at times discussing what they were learning with others. The grey areas emerging were currency of materials and staff and the balance between theory and practice.

What was useful for transfer of learning?

Although some had reservations about the currency of materials, the respondents were very positive about the usefulness of course materials in the application of learning to workplace situations. Three-quarters or more of the respondents found that content, readings, textbooks and assignments/ assessments were useful in helping them apply learning in their own workplace situation.

While the respondents found contact with teaching staff positive, the contact appears to have been limited. Seventy-five percent of the respondents (n=85) found feedback and comments on their work useful for transfer. Just over two-thirds of a group of 66 respondents found phone or email discussions helpful, but a third did not. Only four respondents completed the item related to other contact, which suggests that contact with teaching staff was not significant.

The most surprising finding to emerge from the study was the low value placed by respondents on interaction with other students in relation to transfer of learning. In most courses students have a number of options in relation to contact with other students. These include study groups, phone contact, and email contact, which are student-initiated. Interested students make their contact details available to other students and they choose when and how to make contact with each other. As well, some courses offer a list-server and/or audio-conferences, which are phone tutorials run by the teaching staff. Workshops were an optional component of two of the five courses.

It had been anticipated that respondents who had interacted with other students would have benefited from opportunities to hear how other students were thinking about, planning to use, and applying learning in their workplace,

either as part of course work or just as a consequence of the course. Also, it was anticipated that interaction would provide opportunities for talking through difficulties in understanding material and its application to real world situations. A number of learning and transfer of learning approaches emphasise the importance of learner-to-learner interaction in learning (for example, Druckman & Bjork, 1991). It is generally accepted that learning is enhanced if one actively engages in discussion over concepts and ideas. Expressing one's ideas to others assists in the internalisation and processing of those ideas. A number of studies have suggested that transfer of learning is enhanced when learners are exposed to multiple examples of application (Bransford & Schwartz, 1999; Misko, 1995; Singley & Anderson, 1989). Thus, it was expected that fellow students would be ideal discussion partners for talking through and coming to understand complex ideas. But the findings did not support such a view. This is an area that warrants further investigation. Although the current study would suggest that interaction with fellow students does not enhance learning and transfer, there may be a need for The Open Polytechnic to address ways of facilitating meaningful interaction among students.

The negative response recorded for contact with other students contrasts sharply with the positive response to the initiatives students took within their everyday worlds. Most found discussions with family and friends useful. Almost all found discussions with managers and colleagues useful. Most found self-reflection useful. The respondents were thinking about what they were learning as it related to their own work situations. Such practices are in keeping with a deep approach to learning (Biggs, 1989). They are also an aspect of making connections between what is learned in the course and different settings and contexts. Such connections are a key aspect of transfer of learning (Perkins, 1995). Respondents reported using resources and practices that would hold them in good stead for dealing with new problems and situations. The findings resonate with Bransford and Schwartz's (1999) PFL approach.

After the course

Part C of the questionnaire dealt with the crux issue: the transfer of learning to the workplace. The section began with a question containing a list of items that respondents were asked to rate according to whether or not they had had an impact on their work/job. This was followed by five open-ended items covering the best thing gained from the course; what learning was applied to their work; barriers to transfer; suggestions as to what would make the course more relevant to the workplace; and other comments they would like to make on the course or on transfer.

What impact did the course have on respondents' work?

The responses to this question suggest that most respondents were using learning from the course in their everyday work. Nearly all agreed that they were more competent in aspects of the job related to the course. As well, they were more knowledgeable and had a greater understanding of the subject area. They thought that their critical thinking skills had developed through the course. Just over half of the respondents to this question agreed that their problem-solving skills at work had developed. However, in other generic skill areas, fewer students reported positive gains in terms of their work. Results from the first section of the survey indicated that most respondents expected a degree course to develop a range of knowledge, skills, and understanding, including most generic skill areas. It would appear that the courses had fallen short of their expectations in these areas.

Benefits of the course

Ninety-eight percent of respondents enrolled to obtain a qualification. But only 19% indicated that credentials were the best thing gained. The 19% included a number for whom passing the particular course meant the completion of the degree or meeting ICANZ requirements. It also included one student for whom this was the first paper of their degree and another who had passed what, for them, was a difficult paper. For most, the best thing gained from the course related to general or specific knowledge, skills, or understandings. Only a small number referred to workplace applications or generic skills.

Applying learning at work

So, what did the respondents actually apply at work? They were asked to list three things, and over half the group did so. The rest identified one or two things that they had applied. This provided a slightly different picture from that provided by the previous question. Most respondents gave examples of either practical skills or generic skills applied at work. A smaller number gave examples of general or specific knowledge applied from the course, for instance, *Team behaviours and how to get the best from a team*.

Barriers to transfer

The barriers to transfer identified by the respondents mirror the findings in the literature discussed previously. The main barriers lie in lack of opportunity to apply learning and in factors related to the transfer situation. Of particular interest and concern were the factors related to the course: inappropriate course material and inadequate original learning. These have implications for instructional design. The respondents provided some suggestions in the following question.

What can be done to make courses more relevant to the workplace?

The suggestions put forward reflect a plea from the respondents for courses to be closer to real workplaces. They wanted the courses to make greater use of practical examples and to enable them to use their own work for assignments. In terms of the materials, some wanted them updated, with more New Zealand content, and others wanted examples of smaller businesses in sectors other than manufacturing.

Concluding comments

The survey provided insights into the experience of a group of distance learners. Interestingly, the results are consistent both with the analyses of transfer presented by researchers such as Ford and colleagues and with those calling for new conceptualisations of transfer (Analoui, 1993; Baldwin & Ford, 1988; Bransford & Schwartz, 1999; Ford & Weissbein, 1997). While the results are indicative only, they do suggest that the respondents are acting in a PFL (Preparation for Future Learning) way. Earlier, the work of Bransford and Schwartz was discussed and, in particular, their call for a reconceptualisation of transfer as PFL. Their approach emphasises the usefulness of viewing transfer in terms of a learner's ability to learn in real situations and organisations. To learn in real situations means to utilise the resources in one's environment and to get help from 'other resources such as texts or colleagues or by trying things out, receiving feedback, and getting opportunities to revise' (Bransford & Schwartz, 1999, p. 68).

Interviews with learners

> Moreover, knowledge acquired by individuals is not objective or 'given' but is constructed in ways determined by personal dispositions. (Billett, 1994, p. 37)

Background and Introduction

Studies of transfer of learning/transfer of training have typically focused on either the context or the task, that is, on the contexts in which learning occurs and the context in which learning is transferred (Baldwin & Ford, 1988; Carraher et al., 1985; Druckman & Bjork, 1991; Misko, 1995). Attention has been paid to instructional design and to strategies and factors which support the transfer of learning within the workplace. In such studies, the learning task and the transfer task have been predetermined for the learners by the researchers (Leberman, 1999; Misko, 1999). In Chapter 3, it was argued that the behaviourist origins of transfer research were partially responsible for its neglect by qualitative researchers. Until recently, little attention has been paid to the individual learner in transfer studies. Constructivist approaches to learning have shifted the focus from tasks and instruction to the learner and the learning process.

Purpose and structure of the chapter

The purpose of the current chapter is to provide an account of the learners who participated in Stage Three of the study, which involved in-depth interviews with learners. The account is in keeping with earlier depictions of distance learners integrating living and learning and with the conception of the dynamic learner. Chapter 5 provided a detailed description of the methods, the context, and the participants.

The focus of the survey and the interviews was on research question 3: *What were the experiences of learners on The Open Polytechnic's Bachelor of Business in relation to transfer of learning*? This chapter provides a brief background to the rationale for the interviews. The chapter has three sections:

- an introduction and background, including a discussion of who the learners were, and a description of the interviews

- a discussion on the orientation to learning, the motivations, reasons and expectations learners had in enrolling in The Open Polytechnic of New Zealand business degree

- an integration of the motivations and reasons the learners had for enrolling with learning and for the transfer of learning.

The learners

Thompson (1998), in a review of the literature on distance learners, found a basis for a profile of the distance learner in comparison to the profile of undergraduates in conventional institutions as more likely to be older, female, in full-time employment, and married. The learners in the current study were older, more likely to be female, and likely to be employed full-time. Although they were not questioned on their marital status, it was clear from the interviews that family relationships, roles and responsibilities were important to most participants.

Gender and age

Twelve males and 18 females were interviewed. They ranged in age from 25 to 53 years. Over three-quarters of the interview sample were in the 25–44 age group. **Table 8.1** shows gender and numbers in each age group. The ages shown were the participants' ages in mid-2000. Most had been enrolled with The Open Polytechnic for at least two years prior to the interviews, and a number had been enrolled for five years or more.

Table 8.1: Gender and age of participants

Age range	(n) Male %	(n) Female %	(n) Total %
25–34	(4) 33%	(6) 33%	(10) 33%
35–44	(4) 33%	(9) 50%	(13) 43%
45–54	(4) 33%	(3) 17%	(7) 23%
Total	12	18	30

Employment status

At the time the interviews were conducted, 21 (70%) of the participants were in full-time employment. Another two (7%) were self-employed, one of whom described a 40-hour week as *Sounding like a holiday*. Three (10%) were employed part-time. Of the remaining participants, two (one male, one female) were not seeking employment and were combining study with care of children. Two participants, who were in full-time employment while doing the course, had subsequently been made redundant and were seeking employment when the interviews were conducted. Both were also occupied with family responsibilities, one while establishing a business and the other while undertaking temporary casual work. The employment situation was somewhat dynamic. For instance, a small number of participants had been full-time students for all or part of the degree, and now that they had graduated they were in full-time employment. Others started the degree while at home with children and had subsequently entered the paid workforce while continuing to study. Two participants had been out of the workforce at some stage in their studies for health reasons.

Geographical location and proximity to on-campus institutions

The literature suggests that distance education provides access to education through overcoming barriers such as geographical location, illness or disability, and family responsibilities (Thompson, 1998). Typically, distance education has been viewed as catering for those unable to attend a local institution. Studies demonstrate that living at a distance from a contact educational institution continues to be a key motivation for many to enrol with a distance institution. However, there is evidence to suggest that growing numbers of students living near an educational institution are electing to enrol with a distance institution in order to study in their own time (Richardson, 2000; Thompson, 1998). Of those interviewed in the current study, only six (20%) lived in towns that did not have a polytechnic. Fifteen (50%) of participants lived in a city with at least one university and at least one polytechnic. Of these, four (13%) lived in the urban Auckland area, eight (27%) lived within the greater Wellington area, and nine (32%) lived in secondary centres or towns with polytechnics. This is of significance in that a number of participants had completed either the National Certificate in Business or the National Diploma in Business at a local polytechnic and then gone on to enrol with The Open Polytechnic for the degree.

Level of educational achievement

Those interviewed were experienced students. Five were graduates at the time they enrolled; thirteen had completed the NCB or the Diploma in Business either through The Open Polytechnic or a local polytechnic. As well, three participants had teaching qualifications, several had trade or New Zealand Certificate (NZCE) qualifications, and a small number had been in the armed forces, where they had undertaken training. Most participants had completed three or more courses in the sample, and eight had completed the degree at the time of the interviews. Of the 30 participants, seven (23%) were from a 100-level course, 12 (40%) were from a 200-level course, and 11, or 37%, were from a 300-level course.

The interviews

Most of the students in full-time employment were interviewed at their workplace. Some were interviewed in The Open Polytechnic's offices in Lower Hutt, Auckland and Wellington. A small number were interviewed in their own homes. Thirteen were interviewed by telephone.

Integrating learning and living

In chapter 4, the appeal of distance education, for those with multiple life roles who were seeking to integrate learning with living, was highlighted. The family flavour of many participants' lives flowed into the interviews. For instance, one interview took place at 8.30 in the evening in a kitchen with the dishwasher humming. The participant had returned home from sports practice immediately before the interview. During the interview her children came out to the kitchen asking for water or to check who was there. They were gently shooed back to bed. Another interview was set up to combine with a solo parent's trip to 'town' for the weekly shop and to allow them sufficient time to be back to pick up children from school.

Interestingly, telephone interviews also provided windows into the lives of people balancing study and family life. One interview was delayed because the friend picking children up for pre-school was running late. A teenage son showing off his 'monster' grazes and dirt from rugby practice and needing to be given first-aid instructions interrupted another interview. A family member thinking the interview was going on for a while delivered coffee to a participant.

The reasons for enrolling in the degree

Transfer of learning from formal education to everyday working life is dependent on the motivation and the interest of the learner, at the time of the 'learning' and later, when confronted with a new problem or situation. The participants shared a vocational orientation. Such students were clear about what their career goals were and what was required to achieve them. Fifty per cent of those interviewed were majoring in accounting and, typically, were seeking to qualify for registration with ICANZ:

> *P15: Because I really wanted to become an accountant, long term. In order to progress my career I needed to have some qualifications behind me.*

P19 also wanted to be an accountant. One of the youngest participants, P19 enrolled in the Diploma of Business as a seventeen-year-old and in the intervening years had first changed occupations and then left the paid workforce to have children. She described the complex mixture of reasons and motivations for studying:

> *P19: I am planning to get in the Society for Accountants, so I need to do extra papers for that. I'm doing a psychology paper [laughs] because it's easy, and it's enjoyable. I started out doing it through the local polytechnic and I did my Diploma in Business there. Then I decided I really wanted to go further and I had a look at the various institutes and decided that really the quickest way was this ... Well, I left school and I was in the retail industry ... I decided it would be relevant to do a business course. Then I decided that I didn't want to work in the retail industry anymore — and I transferred to accounting and kept going from there.*

> *R: So once you got the diploma, what made you decide that you wanted to do the degree?*

> *P19: Because I wanted to be a chartered accountant.*

> *R: So — it may sound an obvious question but it's not to me — what was the attraction in being a chartered accountant?*

> *P19: Initially, money — starting in the [retail industry] there wasn't very much money involved in that, and also not much career choice — to be able to earn a decent amount of money in the retail industry you have to get up to top management. In the accounting industry, there are lots of part-time jobs available and also at very different levels — yes, a lot more flexibility — so I mean next year I am planning on going to work part-time. Because at this stage I would still like a career that will develop into full-time later.*

P19 enrolled in the degree for vocational reasons. However, she enrolled in the psychology paper because it was both easy and enjoyable. Choosing to do a course because of a perception that it is easy conveys a sense that the course itself does not matter, that what matters is gaining the credits with the minimum of effort. However, set against this is the expectation that the course would be 'enjoyable', which conveys a sense that the learning is personal or intrinsic value to P19 and, in fact, that it would be a delight and a pleasure to be a learner on the course. P19 was demonstrating that there are many layers to motivation. The discussion continued and it became apparent that an overall motivation for P19 was to create a worthwhile future for her family:

> **P19:** *I probably look a lot more long term — I don't so much look at the short-term goals. OK, I have short-term goals, but I am also looking at the bigger picture of where we want our family to be, if that makes sense.*

> **R:** *It makes a lot of sense. So when you set out doing the degree you wanted to be a chartered accountant, for the opportunities careerwise and financial security.*

> **P19**: *And the flexibility.*

Seeking a credential

For some, there was the sense that they needed the credential to gain recognition from others. On one level, in the quote that follows, P2 is describing extrinsic motivations for gaining the degree, that is, the acknowledgement that she had experienced a sense of stigma in not having a degree. However, from gaining the degree and now being ahead of people whom she works with, she is saying that she has gained confidence. Yet she also refers to the experience as 'learning', and to learning as ongoing; it did not stop when she completed the degree:

> **P2:** *Having been in an education environment for years and worked with everyone who had a degree and I didn't have a degree, that there was a real stigma attached to that and certainly I could never ever get a Head of Department job because I didn't have a degree. So I spent years in a job environment where not having a degree is bad news. So from my perspective it's given me a lot more confidence, particularly here, because we've got some very talented people out here. I don't know what some of their qualifications are, but some of them are highly qualified. So — yet others aren't that qualified — so it's given me a certain level of confidence in myself in that, 'Hey, I've got a degree and I've a bit of stickability, and I must be doing something right.' So from a personal point of view I think it's good ... I've demonstrated that even at my age, I'm still learning and I'm still prepared to go on learning.*

Another student, P13, was coming up against the barriers to career progression that arise from not having a degree and at the same time was working for an organisation that encouraged him to study for a degree as part of a development plan. He was happy to do so because:

> **P13:** *Well basically I came to the conclusion that most organisations were snobs, in terms of — you've got to have the paperwork to get on the shortlists.*

Staircasing from the diploma

As stated previously, 13 of the participants enrolled following completion of the NCB or the Diploma in Business. A number of regional polytechnics encouraged diploma graduates to continue on to the degree. As well, The Open Polytechnic actively recruits those enrolled in the diploma. For some it is a natural progression:

> **P26:** *OK, it was offered to me. I had completed nine papers in the New Zealand Diploma of Business with the local polytech and it was offered to all the students that, if they would like to cross-credit maximum nine papers, they could carry on and do the degree through The Open Polytech in conjunction with the local polytech.*

Later, P26 added some extra comments which demonstrate her future orientation and reflect her expectation that the degree would further her career prospects:

> **P26:** *More job opportunities. A recognised qualification, because although I've had the years' experience in the workplace, employers seem to be more and more asking for a tertiary qualification, which I didn't have.*

Implicit in P26's comments is the understanding that employers value the skills and knowledge developed through a degree because they see them as transferable to the workplace.

A second chance

P29's story is essentially a story of someone seeking a second chance at education and she described herself as 'driven' and wanting to prove herself:

P29: I barely scraped through School C. So I left there and joined the [public sector], which was something that I always wanted to do — and I was with them for seven years and left them as a senior clerk. And even when I was with them I always had the ability and always felt quite competitive and wanting to do well. I actually enrolled in The Correspondence School to do 6th Form English — but I had to give it up as going on [work assignments] and things like it was just too difficult even though I didn't have any other commitments except to myself and a commitment to them of course ... I went back to work when my first child was 18 months to work at a hospital, to work in administration. So you are around people who have studied and who have degrees.

So it was a culmination of things — family members — my mother's family all have tertiary qualifications. My grandfather is a chartered accountant ... So I look on people like that as motivators. And within this organisation I have met a lot of other people who have been studying extramurally and who have had greater challenges than I have and they have succeeded. Like, I know of a case — I listened to this programme on National Radio to this woman, a doctor, who had a terrible childhood but then as an adult put herself through medical school ... Then she had a child with a disability. And she was a straight-A student. And she said she would get up at four in the morning to do three hours' study before she went off to Med school. Then she would be in bed at 8.30 at night because it was full on with him.

So all of those people have been an inspiration to me studying - and I feel driven. It's something that is hard to explain — it's something — it's not — it's almost like I want to say to my family, 'Yes I have got the ability to do it, I know I can do it, I always did have'.

P29's account is open to multiple interpretations. Looked at through the lens of transfer of learning, there are a number of significant threads woven into her account: firstly, her personal biography included academic and professional role models, which meant that she had some knowledge of what qualifications she wanted and how to go about acquiring them; secondly, her self-concept included a view of herself as academically capable; thirdly, she brought her personal qualities or dispositions to bear on the situation; fourthly, she described herself as 'driven'); finally, she was inspired by the medical student who, despite the odds, organised herself to succeed in a demanding academic situation. The medical student's story also provided P29 with an example of how to organise one's time for study. Later in the interview, P29 describes how, when she first enrolled for the degree, she got up at 5.00 a.m. to study.

Overcoming adversity

Some of the students demonstrated a forward-looking and hopeful stance in the face of adversity and turned a change in their circumstances into an opportunity to work towards a qualification:

> *P14: Well, I wanted to do something. Throughout my working life, I haven't actually been able to finish a qualification, because jobs change, or companies get taken over, or ... something like that. And I decided I wanted to finish a qualification. So that's why I did the diploma, and I thought, 'Well, this is easier than I thought'. I've got two children and I'm on the Benefit, you see. So I thought I might as well keep going. So hopefully next year I'll be able to get back into full-time work.*

P21 had always wanted to be an accountant but left school on his fifteenth birthday. He had mainly worked in manual jobs. He had completed several certificates at local polytechnics. He stopped studying for a few years. The catalyst for returning to study was the break-up of his marriage, when he also became the main caregiver for his children:

> *P21: But as soon as my wife left I saw it as an opportunity to carry on and probably do something that I always wanted to do ...*
>
> *Because you're working and you're busy, you've got a family, that takes 99% of your time, and studying was really a lot more work than I thought. The jobs that I've had have always been physical, or a lot of practical employment. And that was why I couldn't — well, studying was such a drag, a hard to do thing. I've always passed them, but there was a lot more effort than just sitting down and studying. Having time, although you're busy with the kids and you can spend the whole day doing it, I still felt there was time I could study and make use of the time. It would be pointless just to sit at home and do this, that and the other and wander around.*

Within P21's explanation of why he gave up studying for a few years is the sense that studying was hard, it took time, and it required more than *just sitting down and studying*. In other words, learning was 'effortful'.

Some of the participants demonstrated an amazing ability to cope with adversity. P12 analysed her options and then, in a determined fashion, set about gaining a qualification while coping with a debilitating illness. When asked why she enrolled in the Bachelor of Business, she laughed and said:

> *This is interesting. This will get me going. I have a chronic illness. My life went from not so bad to really crap and I spent a number of years on a sickness benefit. And then I thought to myself — I am going to spend the rest of my life sitting on a sickness benefit fighting Social Welfare. So I thought to myself I have got to do something because I am not stupid [laughs].*

P12 completed two subjects through The Correspondence School and then:

I had never sat seventh form at college, so doing a seventh form paper was quite an achievement. So I thought, 'OK I have done this, so there must be something that I can study that will get me a job of some description'. And I had to sit down and think what am I going to do that I can do? And when I was at college I was quite good at accounting so I thought, 'okay, I'll have a look at that'. And I had done an Open Polytechnic paper many years ago when I was a kid in college and my mother studied through correspondence and got a degree. So I thought, 'If she can do it, I will give it a go'. I first looked at the Diploma in Accounting, then discovered I had to do a degree for ICANZ. So I thought, 'I've got plenty of time' [laughs] and threw myself in off the deep end. So that's how I ended up getting into the Bachelor's.

In P12's story there are a number of elements which are of interest in discussing learning to transfer. In studying transfer of learning the interest lies in what are essentially 'problem situations', where the situation is new and different and the individual needs to bring their resources (knowledge, experience, contacts and so on) to bear to address the problem. P12's story of how she came to enrol in the degree recounts such a situation. She analysed her situation, her capabilities, her options and then worked out a plan. She made the connections between her current situation and her own past experience with correspondence. In addition, she had the example of her mother achieving a qualification through correspondence.

Redundancy as a catalyst

P18's job title was 'accountant' but he was not qualified. He had decided that he needed a qualification if he was to progress inside or outside the company. So he had started the diploma about six years previously and had stopped and started work on it a couple of times. Then he was made redundant. This is how he described how he came to do the degree:

I took voluntary redundancy at that time, because we were at [town]. And my wife and I wanted to get back to our home town where our family was. So it was that, that sort of kick-started me into thinking, 'Well, shit, I've got to — you know, it's not going to be good enough just to have a few courses and experience. I need to get a degree behind me to really move up to something a bit better.' So it's really what kick-started me into — certainly the Bachelor's. It was that change in life.

At that point in his story P18 emphasised career motivation for acquiring a degree. A degree would enhance his employment and career prospects. He also identified the redundancy as the catalyst. However, later in the interview when he was asked in what way the degree courses had failed to meet his expectations, he replied:

> I don't think it did, because one of the two — I guess the two key things were: one, I wanted to get a degree so I could move forward. The degree's recognised in New Zealand and overseas, so that's a success. Had I done it and found that it wasn't as recognised as other accounting degrees that would have been a failure. But I feel as though it is recognised. The second one with me having a family and working long hours, it had to fit in with my lifestyle. I couldn't — I haven't got the discipline and I couldn't fit in going to classes or things like that

Like P18, P31 was conscious that his lack of formal qualifications was having a negative effect on his employment and career prospects. Being made redundant was his catalyst for addressing that:

> **P31:** I had no formal education before — I hadn't even finished the 5th form at school, so I hadn't had any advanced learning, if you like. And I'd spent a good proportion of my life in the Services, 20 years in fact. So although I had work experience, I had nothing on paper to say what I could do. And then I came here. I took on a job ... and I was there four years and then I got made redundant. But during the last year, I'd been looking at other jobs, and I was just not getting anywhere, mainly because I didn't have anything formal. I was up against people who had formal education, and they were the ones getting the jobs and I was the one missing out all the time.

An education-orientated company

P22 was unique among the participants in that the company he worked for played a key role in why he enrolled for the degree. When he first enrolled in the diploma he was a factory worker. At the time of the interview he was playing a significant role in a critical project for his company:

> **P22:** Okay. The company itself is very education-orientated and they like everybody with qualifications. And they push for people to get qualifications, so they're very good at paying for everything but textbooks, and they just said, 'Get the books as your own personal property'. So it was really on the recommendation of the people from here that I started on the degree.
>
> **R:** And do they actually influence what sort you do? What sort of study?

P22: It has to be relevant to the position that you're in. That's a very loose ruling that they have there. So if I was working here and wanted to take a welding course, then they'd frown on it. I'm not saying they'd say no, but they'd frown on it. They like people to take courses which they can see being of value to them at a later stage. And seeing they're paying for it, that's fair.

Like others, P22 had a mixture of motivations for enrolling in the degree and in individual papers. P22 enrolled after attending a promotional seminar run by The Open Polytechnic. At that time he was unsure of where his career was going. However, having completed a number of courses and having been exposed to diverse experiences and perspectives within his large organisation, he had developed a clearer picture of what he wanted to do and what he needed to learn. When he was asked what else he expected to gain from the degree he said:

P22: I find the papers, as a rule, very interesting and challenging, which I enjoy. And of course I see that they would be of further use to me where I wanted to go. I wanted to go into the management side of things. And I can see where I would use the things that were in the papers.

He was demonstrated a mind set for transfer. He was envisaging how he would be able to use in future what he was learning.

Change in career direction

P23, after teaching for six years, found herself needing a change, and she went into a middle management role dealing with business people on behalf of a public sector organisation. She found she enjoyed working with the business world more than she had enjoyed teaching. Soon after joining that organisation she started on the degree. When asked what she had hoped to get from the B.Bus she replied:

P23: I'd always done well in management-type areas.

R: So you'd done accounting and that at school?

P23: Yes. And through stuff at [University and Teachers College] — my liberal studies were economics and that sort of area. So I sort of knew it was something I was always interested in. The other aspect was that my husband was studying towards — doing the accounting side of it ... And a lot of the courses he was doing I was thinking I could do this quite easily. Why aren't I? So lots of reasons.

Staying motivated

Distance education requires a deal of commitment from students. As discussed previously, a major concern of research in distance education has been attrition or dropout. Some courses are stand-alone courses, whereas a degree programme demands persistence over a long period of time. A student who completed the degree through The Open Polytechnic would have completed 18 papers. Those seeking ICANZ registration at the time the study was conducted were required to complete 20 papers. Some became disheartened and disillusioned with study towards the end. Often, such students had completed their accounting papers first because of their immediate applicability to their work and then went on to complete the other subjects. What keeps them going is their original goal: achieving the degree or ICANZ registration.

P24 described the long haul of working for registration. At high school she decided to become an accountant *because I was not really good at anything else*. She left school in 1987 and enrolled in the NCB full-time, which was then one of the routes to becoming an accountant. Before she completed the NCB, she went overseas for several years and worked in different jobs, including as an accounts clerk. In 1994, she had a full-time job, a large mortgage and a small child and she decided to resume her accountancy studies. During the years that followed, she continued to work full-time, had another child, did the accounts and paperwork for her husband's company, and took on roles such as treasurer and fundraiser for community organisations. Although unqualified, she was part of the senior accounting staff of her firm:

> *P24: At the start it was because I wanted to get qualified and get a better job. Now it is just to finish something. So I did not want to go back to Tech because the class and tutorial times just didn't fit in. And I thought I could do correspondence.*

P24 stayed up all night and worked on assignments if need be. Nonetheless she downplayed the self-management skills required to complete papers at this level alongside her other roles.

> *P24: No. It is just running around madly. I do not feel that I am organised. I always feel as though I am in a fluster and everything I do is late. In the last two years, let's say two to — oh well, a year and a half — I have become very disheartened and it has been really hard work. The only reason that I am persevering is just to finish it. Just to finish.*

> *R: What has kept you from going under? What has made the difference?*

> *P24: Nothing. I just want that piece of paper on the wall now.*

R: How are you finding that last paper?

P24: Really hard, really hard. Not the work itself — that's not hard.

R: It's a heavy workload isn't it?

P24: Yes. The other thing is that ICANZ changed its rules again and I had to finish. When they, first, they changed their rules, I had to finish my degree by December 2000 and I started to take extra papers. When I first went back to it, I took one paper at a time and I just plodded along with that paper. I was getting good marks, and carrying on. And then if I did not finish by 2000, I was going to have to do another four more to complete their new set of rules.

P24 was disheartened by the time it took, and the changing requirements for ICANZ registration. These sentiments were echoed by P19, who had finished the degree and at the time of the interview was completing the extra papers required for ICANZ:

P19: I have a very supportive husband and mother, who won't let me give up. I have wanted to a couple of times.

R: And what have they said?

P19: You're not allowed! You're too close. Because also the rules changed to get into the Society. Yes, the rules changed so I have to have my degree done by the end of next year or else I have to do — I think it's an extra 4 or 5 papers.

Reasons for distance study

Of those interviewed, six (20%) would have preferred to have studied at a contact institution. Most of this group lived away from university towns and completed the diploma at a local polytechnic, which did not offer the degree. For this small group of students distance was 'second-best'. However, 24 (80%) were comfortable with, or enthusiastic about, distance learning. Many were distance learners by choice. They were mainly experienced distance learners or had previous experience of higher education. P21 was one of the students who would have preferred to attend a university or polytechnic. When asked if it was an option, he said:

No, I'm living too far out of town and just can't afford it. So it's out. That's why I'm doing it at polytech. It's not easy but I'm getting there.

P21 did not have the choice. He implied that distance learning was a challenge, and required the learner to learn how to learn at a distance.

A more reluctant distance learner was P6, who worked full-time and was the parent of several children. She wanted to become a chartered accountant. While some papers in the degree were offered in her small city by a university, they did not offer the full degree:

> *You can't finish it here, which is why I went to the distance learning, which is not my preferred choice. I do not like distance learning that much. I find it quite difficult. I'm better motivated when I've got a structure in front of me to work to, as opposed to just — you know — a date six weeks down the track, as opposed to a lecture that's tomorrow.*

In one of the interviews with teaching staff it was suggested that some people choose to study by distance because they already have the skills, knowledge and understanding required and want to have that recognised by a credential. Distance learning is an easier route for this than a programme with compulsory attendance. However, of the 30 students interviewed, only one student indicated that prior to enrolment he thought he already had the skills and knowledge covered in a particular course.

P13 enrolled in the degree to enhance his career prospects and because it was part of his development plan at work. He had a young family, and his job involved regular out-of-town travel:

> *And I just hunted around, and decided in terms of cost and perhaps the idea, the notion of distance learning being a bit easier-paced, that it probably was the place to go. So at the end of the day, it was a mixture of those two things. That's why I decided to go that way.*

The habit of studying

A small number of the participants had first enrolled in distance education courses or in the Diploma of Business when they finished high school. They developed a study habit and were at ease with distance learning. For instance, P5 had first enrolled in the Diploma of Business as a new entrant to the workforce. *I am a ten year Bachelor*, was how he put it:

> *I mean, I've studied right from — I decided to keep going right from school, so that allowed me to stay in that kind of regime. Whereas, if I took a break out of school and then came back into it, I probably wouldn't have been that ambitious for it.*

His motivations for studying at a distance were shaped by significant experience as a distance learner. He had never worked with anyone else who was studying at The Open Polytechnic:

No, I always took note of that. I think I just really like the correspondence style, working on my own. So I kind of weighed up whether to take some time out of work and do three to six months and do a whole lot of block courses and really lose myself. But I just thought I'd keep going with the individual assignments in preference.

Later he explained why he preferred distance education to attending lectures:

P5: It's just the way I like to operate. I like — correspondence for me is beautiful because I can probably write off a whole weekend and just do an assignment, if that's required. But I can fit it round my night-times, and if I'm doing big hours here, it's still there when I get home. So I don't have to discipline myself to go to school every couple of days.

R: You still have to discipline yourself to study. The self-discipline's just different.

P5: It is, just trying to fit it in. It's easy to let it slip, but the problem is, when you have an assignment due in two days, it would be history.

Being able to work at one's own pace in one's own time was identified in the survey as important to learners. In P5's situation, he was able to continue to work in a demanding job, take on new and difficult projects, while at the same time continuing study. He would just work on his coursework later at night or in the weekends.

Working at one's own pace

Whereas P5 demonstrated why working in his own time worked for him, P11 described how he valued working at his own pace:

But sometimes I've had — they actually recommend ten hours a week study and sometimes I've had, I did five hours a week or less to put into it. And I've had to do it — in some cases I've even done assignments without even doing the coursework! Because it's a pure time factor. But having said that, that was actually because I was studying correspondence, I was able to jump ahead to where I needed to be. And the work that I had done, I had really — where if you go to classes ... Often at [big city] Polytechnic, when I went to classes, you can be learning stuff you already know how to do, so you can't skip forward in the class. Yes, you can fast-forward to where you need to be. So you tend to jump it. You get quite good at it by the end of the course.

Not having to attend classes

P27 had studied by distance since leaving school, but would not have studied if she had had to attend classes. She was an experienced and comfortable distance learner:

> *I don't really see that as an issue. For me, if I had to go out, to attend lectures, it would just be impossible. Because working, home, husband, children, whatever, you just wouldn't get it done.*

For a number of the participants a factor in their motivation to study by distance was negative experiences of on-campus courses. Sometimes the experience had been attending classes with mainly young students whose orientation was social rather than academic or vocational. P15 had this to say:

> *It suits me. I got into [local] Polytechnic and I don't know if it's because it's an age thing; I don't know if it was or not. But I was only 18 or 19 and most of the class was. I don't know how that compares with modern classes. But basically a lot of people there weren't really prepared to be there in class at all, and they messed around.*

P11 was one of the younger students interviewed. He truly enjoyed learning, and one of the ways he learnt was through talking with others. However, he had a negative view of classes and lectures. He expressed it this way:

> *When I was at [local polytechnic] for just one paper, there were these students — they go there and they sit and they listen, and they learn, and they have an exam and it's like they regurgitate it. But they don't really learn — I don't think — they joke a lot in class and it's usually quite noisy. I'm not a nerd but to me I am paying for it. I want to get value for money. I want to understand it — it's not just about doing a Business degree. So, OK, my tutors, the course — the information — it provides me with knowledge, but then I have got to take that knowledge and apply [it] to the real world, I guess. So that is how I see my degree; it has a purpose.*

P11 was bringing to his study a mix of motivations and intentions that have a bearing on future transfer. He was learning to understand, and he wanted to understand what he was learning in such a way that it would be useful to him in the future. He was also identifying that acquiring the knowledge is not enough — he has to take initiatives to use that knowledge — and that he is doing the degree to learn things that have meaning in the *real world*.

P10 was an older student who has a degree and a teaching qualification. He had implied that his age was significant in terms of his expectations. He was asked what the comparison was:

> *To a fresh-faced rookie from school!! It definitely makes a difference to have some life experiences to slot these things into. As I say, this is part of the attraction of study by that route — as opposed to going back and sitting in front of a university lecture — because you find people often change courses two or three times before they find what they want to do. I came back with the clear intent that I wanted to acquire business knowledge so that what I did would enrich my ability to do whatever I will eventually do.*

P10 knew why he was studying, and he anticipated using what he was learning in the future. He was conscious that he brought a wealth of prior knowledge and experiences to his courses.

Not having the discipline to attend classes

P26 enrolled with The Open Polytechnic because the degree was not offered locally. She was part of an active study group coordinated by her local polytechnic. They met weekly for two hours:

> *P26: Well, we don't have to attend the classes, but they are there for us. And they're a marvellous thing; they really assist us. And it's nice to have that meeting point.*

A small number of students presented a reversal of the commonly expressed view that distance learning requires a greater degree of self-discipline than does attendance at classes which are time-bound. These students, who all lived very full lives, claimed that they lacked the discipline to attend classes. P24 worked full-time, had young children, was active in her community, and lived 60–90 minutes travel time away from another polytechnic:

> *P24: For me, correspondence was the easier option. I know that other people, like at my work, have tried correspondence but they just haven't been able to do it, and they have had to go back to Tech. But for me and my life personally I wouldn't have finished it at Tech because I wouldn't have gone. Having to travel to Tech at a set time each week wouldn't have been possible. Something would have come up with the kids, I would've flagged the class, or we would have had something social on. I would have said, 'I don't want to go to Tech'. Whereas with this, if Tuesday doesn't suit you, you can do it on Wednesday. That has really suited me, so I like correspondence.*

P18 was another who referred to his lack of discipline for attending classes:

I'd miss classes. Something would come up. Whereas I'm most comfortable in my own home. I'm just as happy sitting at the table as sitting on the couch watching TV, doing it, reading a book, a textbook. It's something I feel comfortable with, having the headphones on, listening to the stereo, in my own environment. If I want to stop and go and get a cup of coffee and come back to it, that's great. If I want to work to 11 or 12 o'clock at night, the stereo going at the back and the heater going, it's great. You know what I mean? So for me, and with having a young family also, I didn't want to be away from them. I wanted to be able to be with them, till 7 o'clock till they go to bed. Then I'd get the books out.

Expectations of learning and of transfer

As well as enrolling in the degree, the participants enrolled in individual courses within the degree. The degree was for many the big picture goal, whereas they had more specific expectations about what they would learn, and what they hoped to be able to transfer or apply in everyday work situations. P9 wanted to be able to apply what he was learning from the beginning:

P9: I think it is important when you are - if you were a small business person then you would expect the bookkeeping course you do, didn't survive too much in the abstract. They should be useable from day one. I have found that the courses that I have done have been useable.

R: So why do you think it is important that they are useable from day 1?

P9: Because I don't want to — I am investing a fair chunk of my resources into something that I want to have relevance and usability.

Those working in accounting firms and working to become chartered accountants often had an understanding of what the learning outcomes of accounting courses would be, and what opportunities developing skills and knowledge in a particular facet of accounting would provide for their work. Their expectations were developed through working in the field. There is a degree of uniformity in the structure and content of business degrees across institutions, particularly in papers that are required for ICANZ registration. Working alongside colleagues who are studying or who studied for business degrees and seeing what they learn and how they apply learning also shapes expectations. Participants enrolled in one, two or even, in one case, four papers per semester and thus had a combination of expectations.

Not all students were concerned with learning that could be applied immediately. P18 valued the creative side of learning, the opportunity to explore, to think, to work with ideas:

> *P18: I looked forward to it because it's more conceptual. Accounting is very - the reason I don't enjoy the accounting so much is that it's very structured and it's very much prescribed and I tend to enjoy more conceptual, throwing ideas, discussing things, talking about it, that sort of thing. So that's where the 300-level* Management *was good. You could take a scenario and you could really float a few ideas through, as opposed with an* Accounting *paper, where you've got to come up with the right answer at the end.*

Implications for transfer

The first sections of this chapter have provided a picture of those who took part in the in-depth interviews. These sections drew attention to the motivations and reasons that the learners had for enrolling in the degree and at a distance. These are important factors in the current study of transfer of learning. The findings reinforced and expanded those from the survey stage.

While living at a distance from an on-campus institution was a factor in enrolment for a small number of participants, for most, significant factors were being able to study in one's own time and at one's own pace. Distance education assisted with the integration of learning and living. The survey found that students could combine study with work and not be disadvantaged by travel and family responsibilities. This finding was strongly reinforced by the interviews.

A small number of respondents to the survey referred to seeking registration with ICANZ. However, the overall goal of seeking registration with ICANZ and ICANZ's requirements featured very prominently in the interviews with learners. This was not surprising as 50% were accounting majors, something which was not known prior to the interviews.

Viewing learning from a constructivist perspective

The conceptual framework for exploring transfer that emerged from the literature review of transfer of learning was shaped by a cognitive-constructivist view of learning. Within a constructivist view of learning, learning is seen as being constructed by the individual learner. The individual

learner is conceived of as an active learner seeking to make sense or meaning of new learning. The learner does this by relating and processing new knowledge and experiences to and through their prior knowledge, experiences, and insights. The more actively the learner sets about relating and processing new knowledge the more likely it is that they will engage in deep learning and be able to use or transfer what they are learning to new and different situations. The extent to which a learner is an active learner grows from their level of engagement with the learning. Engagement in learning is influenced by a number of factors, including their orientation to learning and motivation to learn, their skill in learning, and their ability to understand how they themselves learn (metacognition). The study of learning within a constructivist approach to learning needs to be conducted from the perspective of the learner. Hence, this study involved in-depth interviews with learners, which explored their experience of learning and their experience of transfer of learning.

Orientation to study

Chapter 4 provided a conceptual framework for exploring distance education and discussed a typology of orientation to study, which had been developed from studies of distance education students in the United Kingdom. The findings of the survey raised questions as to the usefulness or applicability of the typology in relation to mature-aged students who were already in employment. The survey revealed that, while respondents shared a strong vocational orientation, they were also concerned to achieve a credential and intellectual stimulation. Distance education was chosen for the flexibility that it provided for respondents to combine employment and study and to study at their own pace and in their own time. While the literature has linked a surface approach to learning with extrinsic concerns or motivation and a deep approach to learning with intrinsic concerns or motivations, the survey findings suggested that respondents often had both intrinsic and extrinsic concerns. While a surface approach to learning may suffice for narrow or near transfer, far or general transfer is likely to be dependent on deep learning.

The interviews similarly revealed that participants have a complex mixture of motivations, reasons, and interests in relation to their studies. An analysis based on intrinsic and extrinsic concerns did not seem to contribute meaningfully to the study of transfer.

Thompson (1998) proposed a dynamic conception of the distance learner that has two elements: that the distance education population is too diverse to produce a typical profile; and that the profile of individual learners is not static,

but changes throughout their learning experience. In the current study, many learners enrolled in the degree with the broad goal of becoming a chartered accountant or graduating. For most, the degree takes several years to complete, over which time the individual learner needs to sustain their interest and their commitment. During those years the time pressures in their work and family lives may change. For instance, participants gave birth, raised children, moved from full-time employment to part-time employment, and so on. At times they were enthusiastic about a subject or saw subjects as highly relevant to their jobs, but at other times they studied a subject only because it was compulsory for the degree or for ICANZ. They brought a different combination of motivations and expectations to each subject. When most enrol for the first time, they have a vague idea of what will be entailed, but with subsequent courses they have an established understanding of what is entailed. As well, there is a change in focus over the course of the degree. For some this means a shift from an interest in the subject and its application to a focus on completion.

9. The course experience: Learning for transfer

Introduction

The current chapter explores the learners' experiences as students on the sampled courses and for the degree. The initial learning experience is crucial to transfer (Bransford & Schwartz, 1999; Cree et al., 1998). The current study was developed within a cognitive constructive approach to learning and transfer. Particular attention has been paid to transfer as an iterative process that emphasises prior learning and motivations and to transfer as preparation for future learning (PFL).

Many of the participants provided examples that highlighted the role of prior learning in learning and transfer. Their accounts support the view that all learning involves some degree of transfer of prior learning.

What the learner brought to the learning experience

A number of factors influence the experience of an individual in formal education. Some factors relate to course content, structure and delivery, others to the individual learner (expertise in learning, personal and work history, orientation to learning, disposition). This section focuses on what the learners brought to the learning experience, including their expectations, motivations, and prior learning, both from work and from education. These are discussed because they have a bearing both on what is learned and on learning to transfer.

Motivations for enrolling in specific courses

The complex mixture of motivations and expectations that participants reported in relation to enrolling in the degree was mirrored in their reasons for enrolling in individual courses. Some students were looking ahead to what skills, knowledge and understanding they would require in future work contexts. Their comments emphasised practical applications. One, P1, had graduated with a degree in mathematics some years previously and was seeking a career in information technology. She chose to study with The Open Polytechnic rather than a university because *The university is more theoretical while this is more practical-type thinking*. Implicit in her explanation was her expectation that what she learned would be transferable to the workplace. In other words she had an orientation to transfer.

While a few participants enrolled in courses solely because they were compulsory, most had additional expectations of the courses. P11 enrolled in one of his accounting courses because it was a requirement for both the degree and ICANZ. He also had a felt need to know. In addition, he had expectations of what he would learn from the course, partially shaped by familiarity with what his girlfriend had studied: *She has done the B.Bus and she works as an accountant at the moment*. He had a sense of the knowledge that he lacked and that he hoped to develop through the course:

> *I could understand numbers approximately but I couldn't see through them, and I couldn't really understand what made them up. This is just an analogy but I could see approximately what the company's financial position was but I didn't understand the nuts and bolts behind it — or how they got there. ... More just a detailed understanding of accounting.*

While P11 had wanted to improve his understanding of financial information, P18 had looked forward to his final paper and to a subject he enjoyed:

> *P18: I guess — one, I was looking forward to it because it was the last paper. Two, it was internally assessed, which meant I didn't have to go to those damn exams again! But I was actually quite looking forward to it because I enjoy the management side more than the accounting side. I've scored better in the management papers than I have in accounting, so I was really looking forward to it from that. And I really enjoyed it.*

The enthusiasm P18 exhibited was in keeping with Haskell's 'spirit of transfer' and with the work of others on dispositions (Fogarty et al., 1992). What is important in transfer terms is both an understanding of the situations that learning has potential to be used in and the will to learn and to transfer. When P5 was asked why he enrolled in the accounting course he replied:

> *P5: Two reasons: one is, at the time it gave me the disciplines required because I was getting involved in that kind of work in my then current role. And the other one was that I had this kind of role in mind, and I'm able to utilise the skills to work in regards to client situations, and putting proposals to clients ... I knew at the time I enrolled, during last year, that I'd come into a role like this within the next year and that 300-level course was one I wanted to get done, given I was going to be liaising with some fairly high-level managers, in different organisations.*

P5 brought to the learning situation a sense of what he would like to learn and how he would be able to utilise that learning.

Expectations of what the course would be like

Expectations are partially shaped by previous experiences. Most of the participants had completed a number of courses prior to enrolling in the sampled course. A significant number had completed 300-level papers. They brought with them knowledge gained from tutors and earlier courses that shaped expectations as to course content, structures and approaches. For some, there was the sense of building on the familiar:

> **P2:** *I had great confidence in those two, having experienced them in the 200-level course, and we had a tutorial very early on in the course, and it was very clear to me — even when I got the pack and looked at the first lot of assessments — well, I'd already done a lot of this in the 200-level course. So I felt really comfortable about what was being put to me, so I knew that I was going from what I know into areas of unknown. So it wasn't going unknown straight off. It was going from something that I already knew. So I felt really comfortable about it.*

Expectations about course content

While P2's expectations of the course were formed by her experiences on earlier courses, those of another participant, P11, were shaped by following his girlfriend's path:

> *She might have had an assignment — or talking about general stuff — and I had heard terms that she would use — so I could recognise it as an accounting term. But I didn't really understand what it meant. And again, through the compulsory 100-level accounting paper, you do get a basic understanding of accounting-type issues but not really what an accountant does. So when I got to the course I guess you would say I had a reasonable foundation knowledge of accounting. And a comprehension of some of the things I was going to be learning about — I could really just recognise them — I couldn't tell you about them, or describe them, at the beginning of the course.*

Learning preferences

Participants expressed different learning preferences. Some enjoyed being able to shape their own case studies:

> *P18:* *I was expecting very sterile-type cases. Whereas I quite liked the using real companies, and I quite liked being able to use, pick my own case study and just really go for it. You were given the broad guidelines, this is what's supposed to be in it, and it was just sort of, like, go for it. And I quite liked that.*

While some students enjoyed the freedom of broad guidelines, others preferred a more structured approach:

> *P24:* *I am the type of person where when you do a tax paper, you study a set of rules and you remember them. And that's it. And those are the papers that I have done well on, that is tax, auditing and financial accounting. Where you've got to give opinions and write opinions that could be right or could be wrong, I'm not very good at that. I would rather do a mathematical question where you have a right answer. This is the answer whether you like it or not. That is it and I like them better.*

P24 was not alone among the accounting majors in being more comfortable with courses with a strong emphasis on codified knowledge and correct procedures. Similarly, P18's enjoyment at having the freedom to *go for it* was echoed by others. Such differences in learning preferences are in keeping with a number of theories of learning and cognition, which account for such differences and sometimes depict them as polar opposites. These include Pask's (1976) holist versus serialist learners and Kirby's (1988) global versus analytical learners. A number of learning theorists have sought to account for the differences, including Kolb (1981), who identified four dominant types of learning styles relating to the individual's strengths in terms of the stages of the learning cycle: converger, diverger, assimilator, and accommodator. The experiences of the participants illustrated the role learning style preferences play in learning.

P2's experience demonstrates the need to accommodate different learning approaches to learning. As a full-time student with a heavy workload she preferred to immerse herself in one project and finish it before moving on to the next one. Contrary to the view that distance learning enabled you to work at your pace, her experience was that tutors expected all students to be doing a set number of hours a week, picking up and putting things down:

And that also presented me with lots of problems with tutors as well. Because they didn't like that style. I would be asking questions, and they would be saying, 'You're going too fast, you're too far ahead.' And I would say, 'But I've been doing it over the week. I've spent — you know — 40 hours on it this week.' And they said, 'Oh no, you're only meant to spend ten hours this week.' So they didn't understand. That's what really annoyed me about distance learning, was that the tutors wanted to put you into a box, as if you're going along to a classroom.

As she described it, the tutors were fostering a surface rather than a deep approach to learning.

Transfer of learning from prior experience to an academic context

Those of the participants who had a number of years' experience working in management, accounting, or computing roles drew on their work experience during the degree. The prior experience assisted with understanding the theoretical aspects of courses and with grasping the relevance and applications of new perspectives on familiar problems. P30 had unusually diverse work experiences (in the defence forces) to draw on. He found his greatest gains were in learning what was required in terms of presentation and reporting in a professional manner, and for a civilian audience:

Well, a lot of the areas that were covered were areas that I'd come across, if you like, in the work environment. Though one of the greater advantages I suppose was the actual presentation of things. I knew how to do things, but I didn't know how — the perception of how they should be presented to other people, if you know what I mean. So, particularly with the IT — because I did an IT major as well as an accounting major — and in the IT side, there's a lot of new ground being broken. And how the client likes to see things, particularly for new projects and things like that, how you spec things out and that type of thing.

A number of the participants suggested that a few years' workplace experience was needed to make sense of course content, and to complete work such as projects. Many comments focused on the potential difficulties for school leavers:

P2: Yes, absolutely. I do not know how students who go straight from secondary school to university can do some of the assignments they're given. Because I called on my work experiences so many times, and certainly it just helped me get through a lot of my assignments, that previous work experience.

R: When you say you called on it, what does that mean?

P2: Partly it was the fact that I had already established business contacts, and I knew the right people to go to, to ask the right questions. And I had people that would give me support in getting me where I wanted to get. So that was good. And I think the other thing is that I could just recall incidents and experiences from other workplace environments. And it wasn't a matter of doing a whole lot of research. It was already done, I already had it up there.

P2 was describing transferring what she had learned from experience to a different situation. That situation was the course. Some commented that the courses required knowledge and experience of workplace practices. Prior experience and knowledge provides connections to what may otherwise be meaningless information and concepts:

P18: I think back to when I first left school, went to my first job, I started - was it ACA it used to be called? It probably is, I don't know. And I tried two papers and went to half the classes, and I flunked. And I just couldn't relate it to the real world, and I gave up. And ten years later I went back to it with The Open Polytech and passed. So that says to me you've really got to … I had before that ten years' experience by the time I started the course. It was actually the Diploma of Business then. But I would probably recommend to someone — I wouldn't recommend doing the course straight from leaving school. A little bit like, people go to university straight from school and do the accounting degree and I've seen them at work, and they're bloody hopeless. They've got all the concepts in the world, but they can't — they've got to build up that — I'm probably stereotyping a wee bit, I'm sorry — but they've got to build up that experience and interrelations with people, and things like that. So I think it's …

R: So it's an interrelationship of different things?

P18: Yes, it is, it's just interrelating the people, concepts, ideas, seeing it first-hand, then when you do the degree course and go over it, a lot of the times you're going through it, the old light switches on. You go, 'Oh yeah, I can relate to that. Yeah, I remember an incident that happened.' It just puts things more in the picture.

In P18's account, learning comes about through *interrelating* or connecting one's experience with the ideas and the concepts of the course. When he was 'learning' without the relevant experience, it did not make sense to him and he dropped out. A number of participants told similar stories. One, P23, contrasted the experience she had as a young teacher trainee with her current experience with the B.Bus:

P23: Yes. And it all fits. And that is interesting because when I went through education at Teachers College and whatnot, it was the other way around. You had all these ideas out there, and you were expected to suck all this knowledge in and then go out and apply it. Whereas, being an adult, you have done a fair bit; you have applied the knowledge and you're going back — it is almost like a reassurance more than anything.

R: So, have I got this right? When you were at teachers college, everything was new?

P23: Everything was new and you were on your sections and whatnot as well.

R: And you were going into an environment that was different for you, and strange?

P23: And when you finish your learning time you are expected to go back to your notes sort of thing. Whereas this time around you have had the experience and now you are going to the notes and finding, 'Oh, yeah, that's how that fits'. It's the other way around.

Later in the interview, the discussion returned to P23's experience of learning at teachers college and then going into a classroom and in a sense needing to re-learn things:

I think the thing is — it's like when you were — when you had nothing to apply your knowledge to — you were grasping at different directions, like, the arrows were shooting all over the show, like, 'this could come in handy or this could' or whatever. But — you were trying to grab as much — not understanding it but when you have been in an environment you can sort of look more clearly in the direction you are heading and apply what you have learned to it. And some of the things that lecturers said — and you thought, 'What on earth do you mean?' But later you could see an environment in which that made sense. ... Whereas probably education gave me those things — I didn't fully understand them at the time. And you're feeling like the theoretical side was too much but you didn't have anything to apply it to, even though you did your sections and whatnot. It was not — it was a forced environment in a lot of ways.

The comments from participants suggest a two-way relationship between previous experience and course learning. The experience provides a basis for recognition and understanding of what is being taught; *the old light switches on*. The course learning, which encourages reflection, assists with identifying and focusing on understanding previous experience in such a way that it is accessible to the participants for use at work, that is, accessible for 'future learning'. Both past experience and current learning are transformed by integrating them. In a sense a two-way transfer occurs.

A small number of the participants were not in paid employment while studying, and some were home full-time with children. At times, to complete coursework, those who were not employed also drew on their past experiences in the workplace:

P19: They would quite often ask you to relate things to an organisation. And I could do that to the retail industry quite easily, the only problem being that it was a long time ago. Oh, and I have a mothers' group that I meet with once a fortnight and I actually did one of the assignments on the group dynamics of that. It was quite interesting. It wasn't quite what was required, but it was the only sort of thing I had available. It was so informal and it worked so well. We didn't have very many conflict situations so it was hard to say how they were resolved.

Transfer of learning from prior experience of academic work

While distance education had been the only experience of higher level education for a number of participants, others had studied at university and were able to compare the experiences. P23 coped easily and well with her degree courses, but was aware of others, including her husband, who struggled with their courses. She felt she benefited from her experience of attending a university:

My husband has never had that experience. I think I do better through this now because I know the system — through going to university first and being there, I know what is required. I know how the system works and there is always a system. And I think for me now, if I had gone straight into it I wouldn't have liked it the same.

Later she returned to the suggestion that previous experience of tertiary study assisted with distance learning. Some of her contact with other students on the degree involved assisting them, not with understanding the subject matter but with how to present their work, how to study, and how to study at a distance:

Another barrier is people when it's correspondence. I think I'm lucky because I know the structure. I know the system a lot better than a lot of them do — it sounds horrible but not a lot of them do — and like coming into university where you are there, you can get a lot of that support. In correspondence you people have to work that much harder to give them that support to learn the system.

Those without experience of higher learning

Previous exposure to academic study also equipped students with an understanding of conceptual thinking and academic discourse. One participant who coped well with course content was initially stumped by the language:

> **P30:** *Oh the communication course, that was one of the first ones I did, I think, but it was all very well learning all these models. I didn't even know what a model was before I started that one. Talking about all these models and I was hunting through the books trying to find out what a model was. It was terrible.*

Like P30, P21 was conscious of the need to acquire a new language. He would also have preferred more support from his tutors:

> *I mentioned before about a glossary of terms, or specific terms. I think that would be a help. Although — yes, approachability of the staff. My first tutor just sent the first assignment back and said, 'You're not up to the standard'. And I was quite horrified!*

While many of those interviewed had previously completed degrees or diplomas, others, such as P30, had left school without qualifications. P21 was in his second year of study at the time he was interviewed. He was acutely aware of significant gaps in his previous experience and education in terms of the requirements of the degree. He struggled with both the content of the course and with what lecturers were asking for:

> *That's why I mention it. Observing my young son and he can just learn things, and it's just like he takes it on board; it's a fact. But with me, if I read something, I rely on my past experience or knowledge before, and I ask questions before I can say, 'Is that the answer?'. I can't say, 'That's the answer'. I say, 'Is that the answer?'. It's like there's a huge gap. And I've been helped — the little booklets that they put out through The Open Polytech: 'Writing an Essay', 'Writing Reports'. That's what you need. That's knowledge I should have picked up at school.*

Those new to higher education also needed to learn how to study effectively. P12 described in graphic terms efforts in learning how to study and how studying entails metacognitive skills, planning ahead, selecting appropriate strategies and monitoring their effectiveness. P12 was not employed during the early part of her degree, so understandably her focus was on learning for exams:

Just the basic accounting courses and how they make you think. At level 5 you start off. It was hard; it was probably the hardest year so far. Because it was my first year in thinking, my brain hurt. I swear my brain hurt. But level 6 was just like a step up and it made you think just a little bit more and level 7, it's more of a leap. It's another step and it's an expanding of the thinking — I think I never used to do that before. I never used to say, 'Hang on. What happens if we need to look at these again?'. Even when I do my notes. In my first year — I wrote my notes but I didn't write the page it came from so I couldn't look back where that came from. Last year I couldn't look back because I didn't write down the right information. So I need to think about this and put down stuff that I can refer back to when I have forgotten what I have written.

The effort and commitment to succeed at their studies was reflected in the emotional cost experienced by a number of the participants in the early years of their study. This was particularly marked for the 'second chance' learners who were learning how to study as well as learning how to be a distance student and 'learning' the subject matter of their courses:

P29: I do — am prepared to accept — you know, a B, but before, at the early stages, I remember sitting the accounting paper and thinking that I had failed it and I made everyone's life hell afterwards and I threw a temper tantrum. I think it was because of the stress of it all. But then I did get a good mark. I did get an A. That was because I was learning to learn. What I was doing was I was reading the modules and taking it all too seriously and thinking I needed to take notes on just about everything. I'm not talking about taking short cuts so much but you learn to differentiate between what is important and what isn't. What you should take note of and what is really filling. And so I have learned to do that now.

The course: Instructional approaches/techniques/methods

The participants had all completed at least one of the five selected courses in the previous year. The interviews placed particular emphasis on the experience with the selected course. Participants were asked about the sampled course and the degree in general. Their responses were not restricted to the five courses, and typically each participant commented on a number of courses. Typically, they would provide an example which best illustrated the point they were making about learning and transfer. In various ways, the interviews explored how the courses were designed to encourage students to relate what they were learning to their work:

P13: I think the way the papers are structured actually encourages you to think about that. I think they definitely do in terms of part of the outcome. Because in terms of one of the assessments, you do actually have to do practical things rather than theory. Even the management paper I did, I had to interview my boss around a set questionnaire that was in there. So it's not all make-believe. You actually have to take all this theory, go and interview your boss, and then analyse the results. So I think the structure of it actually helps in that. Rather than — yes, I haven't done anything yet that's just all totally theory-based, with no assessment that requires you to do something practical. Because quite often they'll ask you to — an organisation you know, or whatever. So, generally, I've used work as that organisation. And it just so happens that quite often those things have actually been about what we've been doing, relatively close to the period of time I've been doing the study as well. So the relationships have been quite strong.

A number of students who had completed the same management paper commented on its structure:

P15: You're fumbling at the beginning of the course to do something like that, and at the end you're just racing through it. So, as your confidence built up, it took me the same amount of time to do an assignment that was worth perhaps forty percent as it did to do the first assignment, which may have been worth ten percent. Because you just had that confidence. And then of course the next assignment, you do your SWOT analysis and then you do something else, then the third assignment you do the SWOT analysis, something else and then the third bit. And of course, the last one was basically everything. What I think it was trying to do is to focus on perhaps the important thing, to our organisation, what we needed to know mostly, and by doing a course on SWOT analysis and these various other phases three or four times, you sort of — it became very ingrained by the end of the course, as to how to approach this, how to actually think strategically, I guess.

As students progressed through the degree many became conscious of an overlap or the interrelationships between subjects. This was not always valued:

P19: I find it quite annoying actually. Like, there is the ethics paper which I find is repeated in a lot of courses — which I suppose is appropriate for it to be repeated, I suppose.

Note that P19 qualified her negative reaction to material which she had encountered in previous courses. She admits that it assists with retention. P19 differed from most participants in that she was not employed so did not have the same opportunities to integrate what she was learning into an everyday work world. This may have narrowed her frames of reference or schemas.

Other students also acknowledged that, while they were irritated with overlap between papers, it aided retention of knowledge. What is effective for learning is not necessarily initially recognised by students. One commented on the learning journals used in IT courses:

> *P30: One thing that the IT ones did that none of the others did — they made us keep like a journal of learning and it was — the first one I had to do, it was, 'Oh, my God!'. But by the time you're onto your fifth journal, you get the hang of why they were doing it.*

> *R: And what was your feeling then?*

> *P30: Oh, I felt good because you could actually put down your thoughts in writing, whereas before you'd just think about it. And it makes a difference to actually think something out and put it down on paper. Then you can always look back on it as well. Whereas if you had a thought and hadn't written it down, it's gone.*

The courses all included self-assessment of progress exercises. These were rarely referred to in the interviews. The references to self-assessment exercises related to a single course that used a structured approach. In this course, before students submitted their assignments, they were required to mark their own assignments using set criteria and the distribution of marks provided. This exercise was referred to positively by a small number of participants. Distance education develops self-regulated and independent learners. Usually this happens as a by-product of the experience of distance learning but, in the course referred to, there was a deliberate attempt to nurture the development of self-assessment strategies. Such approaches are emphasised in the recent literature on transfer of learning, and on learning (Boud, 1995; Gagne et al., 1993).

Theory

A common criticism of higher education in general and of distance education is that they are too theoretical, and thus less applicable or transferable to workplace contexts. What did the participants think?

> *P5: They were good. It's quite a tough course, the accounting one, and I've just started the next one. It's quite — it's a lot theory-based and you have to retain a lot, but it also teaches you the discipline of how to interpret, look at a company's financial situation and interpret their financial situation, and then utilise that info, to the best of your needs.*

He went on to clarify his ideas. Then the following exchange took place:

P5: Well, the principles out of the course, that's a bit of a discipline. It makes you go through the steps to evaluate what it is you need to do in terms of the theory behind the actual steps, in terms of getting to where we wanted to. So it's probably more a thinking thing, to slow us down, to say, 'Well, have we considered this?'. And look at things from different angles, using some of the theory.

R: So it slowed you, like thinking about — if you hadn't had that ...?

P5: Yes, you wouldn't have the models necessarily, to go and say, 'Well, this is where we should think about our business'. But after this course, you could think of the different models and it probably just slows you down and makes you go through the steps. Otherwise you're faced with a bit of a black-and-white situation which is not black-and-white because there are so many different related parts.

P5's comments suggest that what he learned from the course stimulated later learning in the workplace. He is describing it as 'thinking'.

Some of the comments about course content related to its currency. One participant recalled how, when he was doing a technician-level certificate some years previously, he was aware that the curriculum was preparing the students for the past, not the direction that the technology was moving in. He knew that he would not be implementing (transferring) what he was learning to future work contexts:

P13: I think you felt, 'Well, you know, goodness gracious, it's great having this theory, but we'll never, ever implement this'. Because the direction, I felt then the direction of what was actually — because I did mine in telecommunications — the actual stuff was out of date at the time I was doing it, and you knew it was. But the curriculum said this, so you had to do it. Whereas I felt, with the degree, apart from one or two papers where I still wondered, 'When was this last updated?'.

P13 was not alone in commenting that some of the readings were old. However he said that, in the main, courses were up-to-date. This comment was echoed by a number of other participants. They were concerned with currency as it related to contemporary workplaces:

P22: Typically, the theory is pretty close to what happens in the workplace. Some of the material is, perhaps, I've thought myself anyway, a little bit outdated. But I'd suggest it would be part of a continual update basis, to try and keep it up there. It's probably right as far as matching it to the workplace goes. And I

suppose they're dealing with people in a lot of different workplaces. Yes, in particular, some of the accounting course, if I was going to be an accountant, it would probably be pretty useful. But to someone looking more in the management role, I wonder whether it went a little bit far.

Participants grappled with understanding what concepts and theory meant in practice. Some felt that their learning would have been enhanced if they had been provided with examples to illustrate the theory:

P19: A lot of courses do that — if you only get the theory — so, I know what I am saying — so you get the theory and you are expected to apply it. But if you haven't seen it applied, that can be quite difficult to do. In the easier courses you get all the examples. But in the harder courses — some of the 200 and the 300 courses — they don't do it, they just give you the theory. I suppose you are expected to have the nous to do it.

Some participants commented on knowing from experience that learning that may at first seem remote from work may later prove useful:

P22: As far as the content of them goes, yes, most of them are very good. Some of it I think, 'When am I ever going to use this, or be required to use this?'. But in saying that, I've done a Diploma in Technology and that's typical with any learning. And as you change and your life changes course, it's amazing how much of that stuff you actually do go back and read at different times.

Others suggested that there was too much theory and not enough practical material:

P24: I found that there were not enough IT papers as part of the ... There is a paper but it is totally theory. Because accounting now — everything is IT-based and I thought that there should be more emphasis towards that.

R: So where is the gap for you in terms of what you need?

P24: More practical IT work. Maybe an Internet-based course or something like that. There are some practical assignments in the first accounting paper, which is good — first computer paper, sorry.

Tutorials, workshops and audio-conferences

A number of courses of the degree offer students the opportunity to attend a workshop or tutorial usually held for one or two days in either Auckland or Wellington. If numbers are sufficient, a workshop is also held in the South Island. As well, some courses run audio-conferences. These are telephone tutorials, and they are usually offered as an alternative to the workshops for those unable to attend:

> *P2: I went to all that they offered me, but I was only offered two out of all 18 papers, I was only offered two tutorials. Only two papers gave tutorials. And you have to pay, you have to get yourself there — it's either in Auckland or Wellington, or Christchurch, which if you're living a long way away, it can be expensive to attend a tutorial.*

The workshops performed a number of functions. One of those functions was introducing students to complex topics. A participant suggested students start work on difficult concepts and procedures prior to the workshops. That would mean they came to the workshop with some understanding of the topics and of where the difficulties lay. In other words the students would then arrive at the workshop with a 'need to know'.

> *P15: We did have access to workshops, which were helpful. They were really, really good workshops. But it's just the sheer volume. The workshops weren't there when we needed to do consolidations. The consolidations were thrown on us, three weeks before the exam. And that was just horrendous. It was quite a — the course had started off relatively straightforward. It got potentially harder, for me it got harder and harder as it went on. Three weeks before an exam, you're sort of — you've got this one last great assignment, which is basically consolidated accounts, and you really, although you get to go to perhaps a workshop before the course, the workshop was - you couldn't really... . Unless you were actually ahead of where you needed to be in the course, and you had actually gone through the consolidations, and you could actually understand some of the issues of consolidations, you didn't gain that much from the workshop. If you had had the consolidations first, and then had the workshop second, it would have been better. But you sort of sat in the workshop, never even looking at consolidations, and the tutor was up there trying to explain consolidations. But because you hadn't actually worked through the theory in the course, you really knew nothing about consolidations. So what you took in was limited.*

While some participants chose not to attend workshops or tutorials, others found them very useful. P24 was adamant that distance learning suited her best and yet she found the workshops very helpful. Not all courses had the workshops, and if they did there would be only one for each course:

P24: Lots of papers have them, at the place in Auckland. I get heaps out of them. I often struggle through the papers, go to the course and think, 'Oh, that all makes sense'. And I have gotten a lot out of every single one I have been to.

R: So you would like more of that kind of thing?

P24: I really couldn't fit in more of that kind of thing.

Whereas P24 was studying by distance because it fitted in with her work and family life, another student, P6, lived in an area where distance was the only option for the degree. P6 preferred to study in contact mode, and favoured group learning approaches. Yet this was not an option for her either in terms of institutions, or in terms or attending workshops:

P6: And that's another thing with distance learning. I just can't leave — well I didn't finish that; we've had all this other stuff happening. Another failed paper; well, absent paper. It was that the tutorials were in Wellington, and the tutor had made a big issue about the tutorials and what's going on, and all of that, but for people like myself in [small city], that's out of the question. $500 to do a paper; you're not going to be flying to Wellington. And I find that quite a poor — it's great for the people that can get there, I'm sure of it — but ...

One of the participants, P18, suggested that he had not felt the need to take part in the activities such as the workshops and the audio-conferences because he was able to draw on his own diverse experiences. He had thought about attending the workshop for a course with which he had expected to struggle, but when he coped well with the course decided against it. In reality it would have been expensive to attend as he would have had to fly to the nearest centre. As it turned out, the course enabled him to draw on his previous experiences:

P18: I basically just did my own thing. I felt - I thought about it, being the last one, I thought it was going to be quite difficult because there was always an expectation throughout the whole course [means degree], 'Leave this one to last' sort of thing. But after the first couple of papers [assignments] and I was scoring quite well and I felt comfortable doing it, I thought, well, I'd just keep going.

Contact with tutors

The results of the questionnaire suggested that students had limited contact with tutors. Likewise, those interviewed tended to have had little contact with tutors:

> *R: What kind of contact did you have with your tutors during that course or any of the others?*
>
> *P6: Basically notes on projects and that's it.*
>
> *R: Did they ever initiate contact with you?*
>
> *P6: No.*
>
> *R: Did you initiate it with them?*
>
> *P6: No.*

Most students appeared to have had very limited contact with their tutors during the course. Interestingly, they were reassured that in most cases the tutor was just a phone call away:

> *P13: I probably don't actually contact tutors enough, really. I tend to sort of - my style is to read it and then think, 'I wonder if I'm on the right track?'. And I might go back to it a day or two later and think, 'Oh well, yes I am'. And then venture forth, do the assessment, send it off, then hope that it comes back. And then, to date, everything's come back pretty much in a positive direction. And the feedback is, as I say, in terms of your own individual assessment, usually it's pretty positive, in terms of things you either should have thought about, or acknowledgement of points well made.*

Participants tended to compare the interaction with a tutor on one course to previous interactions with other tutors. A number expressed the view that a course would have been enhanced by more interaction and if the tutor had taken greater cognisance of the real world:

> *P13: But I think sometimes, I just wondered I suppose, as I went through it, how long was it since this person had dealt with the real world. The impression I picked up.*

In one of the courses there were four assignments, and students were aware that they were linked, with the first one being a rehearsal for the second and so on. One student who struggled with the course did not contact the tutor but relied on the written comments on assignments to guide her:

P16: I found that doing some of the work it was quite hard to know exactly what you were being asked to do. Sometimes the theories were not easy to follow, the way they are written in books. I didn't particularly like the textbook very much. It didn't really get into — some parts you couldn't really follow. It took me quite a long time to follow exactly what they were on about and to take it and apply it to different New Zealand companies.

R: What did you do about that? Were you able talk to other students or to the tutor?

P16: Yes. I didn't talk to the tutor because you had four assignments. And you took the comments you got from the first and see if you could do better the next time.

Seeking assistance from tutors

Distance students sometimes struggle to understand concepts, or they want confirmation that they are on the right track with their learning. Struggling to understand a concept may assist in processing new knowledge and, providing the learner does not give up or go off on a wrong tangent, may involve deep learning. It also provides an opportunity for refining skills in problem definition and for asking questions that assist in the gaining of necessary information. Students have the option of seeking help from their tutor. Usually such contact occurs by phone or email. P19 is at home with children and does contact her tutors. In a recent course the tutor clarified what was required for an assignment. She found this helpful but suggested that it is not easy to obtain clarification of content from tutors:

P19: The tutors are very careful about what they are trying to say because they do not want to give you the answer. Which is actually quite infuriating — because not so much to do with the assignment and you are wanting them to explain something — if you don't understand something how are you going to understand it enough to do the assignment?

The distance student who is struggling to understand what is required usually resorts to phoning the tutor:

P14: Sometimes it was quite hard to grasp what the tutor was trying to get you to actually get out of it. You'd read the readings, you could read the text, you could read your course notes, and you'd still be blank. And you'd get on the phone to the tutor — and having that 0800 number is absolutely marvellous — but sometimes the tutor couldn't get across what they were actually wanting you to get out of it.

Sometimes the participants found it hard to understand the explanations to their queries.

> *P12: I had to ring him [the tutor] up three times and ask him the same question. I said, 'Look, I still don't understand what you want from this question'. And he'd have to explain it again. But the way he structured the question I just couldn't understand what he wanted. Because as far as I am concerned, answering the assignment is trying to write down what the tutor wants. Structure it. How they want it. Some of the questions he gave us, I couldn't get my head around. 'What do you actually want?' And it was so hard — in the end what I wrote was right, but it was almost bending my mind in half — with the question. I found that really hard. That was probably the hardest thing about the assignment — understanding his meaning. Again, I think that was because he assumed more of us than what we were at. I don't know. Maybe it is a level 600 course. And it felt, it was probably one of the hardest courses I have done; it was even harder than the course I am doing now, which is a 700-level course.*

Contact with tutors was sometimes initiated by the students who were struggling with unfamiliar subjects. One participant contacted tutors for statistics and ethics papers, which she struggled to come to grips with:

> *P7: It's nice that, if you need them, they are there. I probably should make more use of them, sometimes, but sort of working alone, not in a group, you tend to potter on — 'OK, I'll see if I can do it first'.*

Tutor approachability was mentioned by some participants. P12 regretted not having a peer group with which to discuss what he was learning:

> *P21: Because I'm only in town once a week! And some weeks I don't call in, other weeks I do. I found that hard, not being able to talk to someone doing the same course. And the tutors, I think, they had the knowledge and sometimes I got the impression that they thought I shouldn't ring up, that I should have the knowledge. So I felt that I couldn't ring up.*

Contact with fellow students

When students enrol for the degree, they have the option of making their contact details available to other students. It was clear that participants were aware of this option. However, only two of the five courses in the sample included specific references on forming study groups or having contact with other students. One was an accounting course and the other a management course. The value of group interaction was stressed to management students as important for developing strategic skills. A recommendation made at the start

of the course was that students form small groups to meet together face-to-face, by telephone or by email: 'The course assignments, practice exercises and case studies provide the opportunity for an exchange of ideas, notes and plans. This is an important part of the course design'. The other course suggested that students might like to form study groups after meeting fellow students at the regional workshop. However the participants commented on their experiences across a wide range of courses. Sometimes the contact was initiated because a student was struggling to understand what was required for an assignment:

P7: Well, I've only just started that paper. She rang yesterday, which is quite good, because this is her first paper, I think, by distance learning. She'd done the previous ones through the local polytechnic.

Some participants suggested that contact with other students was about gaining additional perspectives, and sharing ideas:

P4: I think it is quite a difficult course to do by distance. I think you do need a lot of interaction with other people to get their ideas. And I did go to the contact tutorial — and that was very good to get that kind of input from other students.

More fellow students on that course phoned P4 from the contact list than had phoned her for any other course she had done. They were phoning because they were *wanting to discuss the assessment and what they should be doing and how to do it, and things like that.*

Later, this student returned to the question of contact with other students:

P4: It would have been interesting for me to find out what projects other students were doing and how they were tackling some of the questions in the assignments. How they were approaching — solving some of the problems that we had to do. I would have been very interested to see what other people were doing — not because I just wanted to see what other students were doing but because I was interested in seeing what they had come up with and how they got there. But there was none of that and therefore you didn't get that knowledge from what everybody else had learned as well. Just like I did the [well-known company] *and I learned such a lot about the* [well-known company] *and it was all really interesting.*

Those students who would have preferred to have more contact with other students tended to be working in jobs with limited scope to apply what they were learning or were not employed at the time they were studying. Those participants who had been in full-time employment while studying tended to be neutral about contact with other students. They did not seek it out; nor did they reject it. As P13 expressed it:

That's something else that I actually haven't bothered with in any of the courses I've done. I've sort of taken the view of, 'Well, if anybody wants to contact me, I'd be happy, but ...'.

Those students who live in the main centres generally have the option of whether or not they make contact with other students. However, those seeking contact may have diverse motivations:

P15: *Yes, particularly in tax, I ended up meeting a guy who was in the same class as me, so we could work through the issues. And that was very helpful. But for other people to be useful, I found that either they've got to be committed enough to the course, and they've got to want to work through the course. With other people you get — well that could be an age thing, in school mode. But a lot of people in the past haven't really wanted to. And if you go to their place to study, for example, with them, they would end up watching TV or talking about other ... It became a social event rather than actually being what you were there for. And although I struggled at times with the fact that I was isolated, in that respect, I always got by. And it really forced me to think about things, which was quite good. So it actually helped my problem-solving abilities.*

At an on-campus institution, students often pass on tips to each other. In a distance environment this occasionally happens through electronic or printed means. P21, who missed contact with other students, describes how helpful information about a website was gained from a student suggestion in a newsletter:

P21: *And it was to do with a set of financial statements which included all of the standards written beside it. In the course you had the financial statement and it taught you how to do it, and in another part of the course it had all the codes of practice for financial standards; but to give you a set of accounts that had it together, it wasn't present. So one of the students happened to find it and suggested we go and have a look. And I flipped through every single page of these accounts, had a good look, and that was very, very good.*

Several participants commented on their sense of isolation, and the difficulties in countering it. It was not easy to make contact with fellow students:

P2: *No, that was the big difficulty. Because it was distance learning, I didn't have any colleagues. And because of my age, I didn't have anyone around me who was doing the same course. So it was a very isolated time, and the institution didn't give out email addresses. They gave out phone numbers and said, 'Organise a study group'. But in our town, there was only about three. You were lucky if there were three, and [region] is such a vast area, and it was toll calls within a ten-mile radius of our town. You know, it was just not practical to get a study group together.*

This participant had a negative experience of a study group.

> *P2: I did form one group. Well, it wasn't a group it was just one other guy in our town, for accounting. And I found that he really was — I operated quite differently in my studies. I would spend a whole week — doing four papers in one semester — I'd spend a whole week on one paper then a whole week on another paper. So it was a month before I got back to the original paper that I was doing — accounting, or ... . So in that month, I got a long way ahead. Whereas the study group person that I was trying to work in with, he was just doing it a little bit each week. So we were totally out of kilter, with where we were at in the course.*

Students from other institutions

Some participants had partners who were also studying. As well, a few students had colleagues who were enrolled in similar study programmes at other institutions or who had studied previously:

> *P24: Because they're in the same boat as me. A lot of them are studying, or have studied. So, yes, with the people I work with ... If I have an assignment that I have a question on, I will often take it to work and ask what they think. They'll read through the case study and they'll tell me what they think. That happens quite often and vice versa. I work with somebody who goes to one tech and somebody that goes to another polytech.*

Another working in a large firm was P12, who had seven or eight colleagues who were studying:

> *It's general talk. We just chat about our courses. It is nice to know someone is in the same boat as you ... Most of us, none of - there is one woman there who is doing Open Polytechnic as a third semester thing. ... She has done a summer semester Open Polytechnic. But most of them go to the polytechnic and they don't understand. Some of them just look at me as if I am mad for doing correspondence.* [laughing and emphasising] *And they say, 'I couldn't to it like that'. So they are not so keen on my way of doing it.*

Within a distance education course, the only contact some students have with their tutor is through the assignments and the assessments. So the feedback on an assessment has importance for motivating the student:

> *P13: I find the key is the timing between when you send the assessment in and when you get the result back. If that's nice and tight, it makes you feel more confident about taking the next steps.*

The learning experience

> The fact is, the more meaning that learning has for us, the more complex are our conceptualisations. This is especially true in ill-defined problem-solving situations as opposed to the typically well-defined problems presented in laboratories and classrooms. (Haskell, 2001, p. 123)

Introduction

This chapter goes to the core of the learner's experience of learning, paying particular attention to 'initial learning' and to learning for transfer. A number of themes will be explored: the learner's approach to learning; enjoyment of learning; learning to learn; learning strategies; difficult concepts, including strategies for learning difficult concepts; learning as an individual or social activity; integrating learning and work; and learning for transfer.

Those interviewed described their degree studies as contributing to growth in self-confidence, open-mindedness, critical thinking, and in their world view (that is, they now take a broader view of the world). The interviews provided evidence that participants acquired skills in both learning and metacognition. In other words, they became more skilled as learners and more aware of how they learned most effectively. The participants valued learning that was linked to real workplace situations. When participants applied what they were learning to real situations, they were clearer about what they had learned and more confident that the learning would be readily accessible to them in the future.

Approaches to learning

Students' interest varied from course to course. There was evidence in their comments that, whether a deep or shallow approach to learning was adopted, very much depended on factors such as the nature of the course, its content, its structure, and the balance between their own felt learning needs and their perceptions of the course, or tutor's, requirements. Those students who had limited opportunities to integrate what they were learning placed their emphasis on learning to meet course requirements and on examples provided within the course, and thus took a restricted approach to their learning:

> *P29: So, I can read a module and pick out the bits I think that I need to know. And I find that if I go back and read the objectives it focuses your learning. And if you have learned the objectives you have really learned the exam.*

One student describes how a course lacked challenge because it covered similar ground to that covered in the Diploma in Business:

> *P6: Quite often I find a difficulty with that, with doing the New Zealand Diploma in Business and cross-crediting. There's an awful lot of sort of cross-pollination. Some things I'd come across before, so it was really basically repeating, which is I suppose an advantage, but it's also not very challenging. So yes, it was pretty much what I expected it was going to be — long-winded, theoretical, good background knowledge for work, but not sort of specific applications, really.*

Later, P6 had this to say when questioned as to whether the course helped in broadening her world view:

> *No. Possibly if my attitude towards the course was a little less mechanical, as in 'I have to do it', it may have, but for me, no, it was just basically 'get in there, do the work, finish it'.*

Some students set about learning in ways which made sense to them in terms of learning for real work situations but did not necessarily make sense to their tutors or for assessments. One such participant was P11, who had been describing how he set about researching and investigating a workplace problem; as part of this process, he would talk to others at his workplace. He was asked what made him approach problems in that way:

> *P11: Something I think I have been taught* [laughs]. *I think I sort of just picked it up through the doing the IT and systems analysis and various papers. Because what I am always trying to do is to bring — I guess more integrate my knowledge. I guess. Because at the local polytechnic they do — they call them Integrated Modules IM 1, 2 and 3 — their first three semesters, which were just integrated modules. So some of my friends taught me about that, so that I was trying even though I had done three or four papers at The Open Polytechnic, there was no reason why I couldn't try to integrate all the knowledge where possible together to make it so it's not so much separate disciplines but cohesive little units.*

> *R: Does that affect what you do for your assignments?*

> *P11: It gets me in trouble! Because corporate finance people aren't accountants. So if you are doing three papers at the same time. I'm an IT person; IT is a little in the mid-ground because they look at accounting-type issues but at the same time they look at management issues as well as real hard financial number issues. So in some papers you actually find they are pulling against each other. Which is quite interesting when you try and integrate them because sometimes there isn't actually a synergy within them.*

R: So that's saying that within the workplace there is a synergy?

P11: I think within the workplace you can try to create a synergy. But within the learning you can't because your examiner or tutor doesn't care about what the accounting tutor is doing because it is a finance paper or an IT paper and it is not their responsibility, whereas in the workplace you do work to bring it together. I think myself that is what I have found effective — an effective way to apply it and bring them together. There were one or two papers which I don't really think about much. You leave them and you don't try and apply them, you can't remember much about those. Whereas those other ones, you try and bring them together and apply them, the recall is quite good. Not in terms of regurgitation of the straight information but actually the implication of it.

What P11 is describing is in keeping with a deep approach to learning (Biggs, 1987; Marton & Saljo, 1984). Importantly in terms of this study, it may also be read in terms of Bransford and Schwartz's (1999) depiction of traditional approaches to transfer being SPS (Sequestered Problem-Solving) and their conceptualisation of transfer as PFL (Preparation for Future Learning). P11 discovered that the accounting and management tutors wanted him to use what he was learning in a restricted way, to 'sequester' himself and the problem. However, this did not make sense in terms of a real workplace, where problems had a number of dimensions. Yet, the approach he was adopting was in keeping with the PFL approach, drawing on a mixture of resources including those in the workplace.

Authentic case studies versus prepared case studies

While a number of the students were employed full-time and were struggling to keep abreast of course requirements, their coursework also provided opportunities to compare case studies with the reality of their own organisations. One of the participants who had been a full-time student expressed a preference for authentic case studies rather than those provided within the course:

P30: The information just wasn't even in the case study. Once you've read it three or four times, you usually get — and the information you need is just not there. Part of the analysis is to compare them with other companies and things like that. Well, there's nothing actually in there, then what we had to do was make assumptions. And to me, you're sort of wasting your time. If it wasn't in there, in the case study, then all you do is make an assumption anyway. It just becomes a guesstimate, if you like.

R: So you're dreaming up your own evidence?

P30: Yes, you're dreaming up your own competitors and things like this. And it just, to me, it became a bit of a farce in the end, because you could only take it so far and then you had to — just make it up. But at least when you're doing your own one, you could actually gather all the bits that you need, and then apply it. And it was much better, from my own point of view. I mean, other people might have liked it the other way.

R: So for some people that's an awful lot of work. How did you feel about the work that that would require?

P30: Oh, I didn't actually think it was that much work. When I did the project I mentioned before, I had one phone interview with somebody there. And from him I got — he sent me a lot of information. I got clippings through the polytech library, and that would have been it.

R: Well done.

P30: It's not a lot of work, as long as you know what you want to get. I mean the annual reports and things like that, you can get so much out of those. I had three years' worth of annual reports, I think, which I got from the company. And I managed to get a few clippings. I was lucky because it was a local organisation, I suppose, so I knew somebody here. And they were a bit sympathetic. So it was quite good that way. But you don't need a lot of time to actually get the information. The time comes in actually sitting down and reading through it.

The tension between learning to complete course requirements and learning for future work applications mirrors shallow versus deep approaches to learning (Biggs, 1987; Marton & Saljo, 1984). Another participant, P3, found that using the case studies provided in courses did not provide her with the depth of learning she wanted and, as well, they often used big companies; whereas her current and future work involved small businesses. Her tutor argued that it would require too much work to develop her own case study on a small business where there was little publicly available information. But P3 was sure that she would learn more from doing that:

Yes, because I wanted it to be beneficial for work. It was something I'd looked forward to. I'd looked forward to doing that course. I'd read all the course information and it seemed like a project, and I love that sort of thing. So it was really important. It costs a lot of money to study, and I wanted it to be beneficial. And my boss really supports me and I want to be able to contribute, and it's an opportunity to earn more respect. And so I did. I just thought I don't want to go to strangers as such; I want to do something that's real in my work.

Students like P30 and P3 had come to understand that how they went about learning mattered in terms of future transfer. In chapters 2 and 3 the work of a number of theorists was shown to be converging around theories of transfer that incorporated cognitive processes into explanations of learning and transfer In these theories, why knowledge is initially encoded (learned) is crucial to how it is later retrieved and used. If knowledge is encoded for a mock exercise that is stripped of key aspects of an authentic problem-solving situation, or if knowledge is encoded for an examination, then in future those are the purposes for which that knowledge will be available

Enjoyment of learning

Many of the participants expressed the view that they enjoyed their studies, that they enjoyed learning, and that it was an important part of their lives. One, P18, looked forward to his final course:

I looked forward to it because it's more conceptual. Accounting is very — the reason I don't enjoy the accounting so much is that it's very structured and it's very much prescribed, and I tend to enjoy the more conceptual, throwing ideas, discussing things, talking about it, that sort of thing.

Sometimes students' enjoyment of one course grows out of their surprise that it differs from their preconceptions of the discipline. Some of the accounting majors were reluctant enrollees in management courses. P19 describes what she gained from her 200-level course:

I sort of enjoyed it. It was actually — because the management one I had done before at the 100 level. I had actually done it for my degree and I only got a C. Because I hated it. I really didn't enjoy it at all ... I think I didn't like the tutor. And it was also the second paper I did in the degree. So it was sort of like — I wasn't into studying at that point. That was at the local poly. So of course I had to redo when I did it a couple of years ago at the 100-level, which I found relatively easy since I basically had done the paper before.

Importance of study

As discussed, distance learners need to be highly motivated, and the comments of participants underlined the importance they gave to their studies. P12 expressed in raw terms what her studies meant to her:

That's it. You just do. I spent seven years — just not — three-four years of that seven years not doing anything because I was so tired, and then I decided, 'Hang on, we've got to do something'. And then my degree has pretty much been what that has been about. Even now, if it came down to a choice between study and my job, I would choose study. It is something that I have done for me. It is the first thing I have ever done for me only [laughs]. *Everyone else can just get stuffed. Yes — that is the thing — as an adult I chose to do this and it is something I am going to finish no matter what.*

Learning strategies

So how did the learners go about learning? One of the participants, P30, who, interestingly, had left school early without qualifications and went on to have a variety of work experiences in the defence forces, coped easily with most subjects:

I'd always had to learn the hard way. Like, I'd had no formal training for, say, probably 20 or more years. Any new skills I basically had someone might show me, but not in a formal situation yet, and I always had to sort of learn things myself anyway. So I suppose I must have at some stage learned how to learn and just carried on applying it.

However, like a number of the participants, including some who had previously completed degrees, he found statistics a challenge, a challenge that required new learning:

I hadn't done any algebra or anything like that since the fourth form, so I was sort of looking at a close to thirty years' gap between when I'd done it. And it took a while to actually get it back into my head how to do it. But once I'd got through that … Well, it was just a matter for me. I was always good at algebra when I was at school. I just had to do a lot of serious revision, basically.

He did not seek help from anyone; he just worked his way through the revision material provided by the polytechnic. Other participants commented on difficulties encountered with the statistics course and prefaced such remarks with references to earlier problems with mathematics. In a sense they were demonstrating negative transfer; prior experience interfering with new learning. In contrast, P30 transferred his past confidence in mathematics to the new learning:

I actually, from that there, gave me enough. The practice exercises that they had in there sort of got my brain going again, and once I got through them, I twigged what was going on.

Several participants commented on how they actively sought to relate what they were learning either to past experience or to their current situations. P12 said that she could 'pin' nearly everything she had learned onto something:

> *What I do — when I was learning and when I was at home — I'd read — whatever I was doing and I'd think, 'This is — I can associate that with ...' whatever it was in my life. So that I could understand it better. Now my partner works for a [processing company]. Now they have a terrible relationship with their workers* [laughs]*. When I was doing* Business Communication *and I could see all the things I was learning. And I instantly thought, 'That's them.' You know — 'Oh, my God, look at that — it's all right there. This is the theory and this is how it works.' And it was like, 'Oh my God, somebody turned the light on'. I could really see that when I did that course. Oh — the law course was really good as well. It was the same kind of thing: 'Oh, my God, that's how that works'. Bits of information I didn't know and the degree course made them all meld together into one. It was like spots of light. And the degree course came along and made it like all one, sort of bright light together — sort of melded them altogether — and went 'This is how it all works'.*

As discussed, doing the degree while working may take a number of years. A number of students had previous experience of either part-time study, distance study, or both. These experiences led many to develop strategies for studying successfully and remaining motivated. In chapter 3, reference was made to the role metacognition played in learning and transfer. The students' strategies are examples of metacognition in practice. P13's strategy was to leave the subjects he expected to have difficulty with, such as accounting, till last. He is midway through the degree:

> *That's the game plan, three a year ... So basically a lot of the first-level papers, mainly management. Yes. I've done some marketing. Just try to plan the study so it all links together pretty well, as best as I can. So I have done a mix of level two and three papers as well, as I've completed the prerequisites, so I keep it all current in my head. [...] the areas where I thought I'd struggle, I've left to the end. So what I've done is design the study in a way that things I think I can handle will be first. So that means that the other stuff then — extra incentive to complete it. For example, accounting. I'm not keen on accounting, so I've decided I'll leave the accounting papers right to the end, because there'll only be a small number of papers left to do, so there's an added incentive to get them out of the road. So, you know, we'll put the hard yards in for that stuff at the time.*

He explained that his approach was shaped by prior experience, that is, what he had learned about learning while doing his first qualification. He was transferring his 'learning' about study skills and self-management — his metacognitive awareness — to the new learning situation.

For the current areas, they'll be the last ones we do. And then — because I've found from earlier study I did, when I did my NZCE, if you actually plan your study around — give that mix between the things that you feel comfortable with handling plus the other stuff that's really testing you — you do get that synergy going there, and it's a bit easier to move on.

Later when he was asked to what extent his study for the degree had changed how he went about learning things, he had this to say:

Well, I just do the work in the order in which it's — I'll be quite honest, I just do the minimum amount to get the result at the end, effectively. But I find my style of learning is about — I do a lot of reading and I find it works quite well. And I think a lot of it is about techniques, it is about understanding what the tutor wants, so you write the product to a bit of that. That is one of the things, you actually find there is quite a lot of style difference between the various tutors with the assessments, in terms of how they like stuff presented. And also if you want the big marks, you've got to take that into account. And exams are about technique. So I haven't really changed any of my techniques, other than I suppose the time you're putting in. I find that things that really interest you, the time just seems to fly by.

Strategies for dealing with difficult courses or concepts

Several of the participants described how they arranged their study plans to take account of perceived difficulties:

P18: Because I was doing a couple of papers a term, the way I tended to structure it was — a paper that I knew I wouldn't have difficulty with and a paper where I'd have to have a learning curve. So as far as that goes, I didn't give a lot of attention to the ones I could basically gain on experience. I tended to just put more time into the technical ones, the ones that I needed to.

Attention was paid in the interviews to identifying what the participants had difficulty with, and how they addressed learning difficulties. Underlying these questions was an awareness that the strategies employed by the learners would reflect those they would later use in new and problem situations in the workplace (Albanese & Mitchell, 1993; Bransford & Schwartz, 1999; Fogarty et al., 1992).

> *P11: First off I would try and find someone — a friend, family, people at work — who know something about the subject or that have a reasonable understanding of it. Like, they are not a complete expert; they don't need to know it all, either. Failing that I would try to go to my tutor and try and get some information, I guess.*

Several participants commented on the difficulties they had experienced with farm accounting. Their difficulties occurred as they attempted to understand course material and to complete assignments designed for farm accounting. Their accounts provide a snapshot of dealing with a new and different situation, and being called upon to apply learning, but at the same time needing additional new learning:

> *P11: I struggled a bit there until I ended up talking to my mother. She was not an accountant but she was in that type of work years ago before they had to become accountants. She did a lot of accounts — years ago — and she used to deal a lot with farmers, so she had a rough knowledge and she helped me quite a bit. It would have taken me a while to work out without my mother but I did struggle a bit, up to a point that I talked to my mother. It all seemed foreign. There was nothing I could reference to or sort of benchmark to where I am going.*

Unlike many of the participants, P11 lives in a city where business degrees are offered by more than one contact institution. He chose to study by distance because it enabled him to combine employment and study. He had usually been able to discuss what he had been learning with family, friends or colleagues, and could seek help from them. However, there was one paper where he had no one to turn to:

> *One thing I find difficult is that while the tutors are very helpful — no matter how wonderful distance learning is — basically communication with telephone and email it's good but I like one-to-one or face-to-face basically is more effective for me. Usually I am lucky enough to have someone to talk to or they can put me in contact with someone else. One subject I did last semester was corporate finance. It was very, very difficult. It was, it was* [said with emphasis], *and it was the first time I failed an exam. And the real characteristic was that I had nobody. So while I talked to the tutor, if I could have had a peer or friend to sit down and go through it I would have done better.*

In the instance cited, although P11 had well-developed skills in learning, he still needed instructional assistance and this was not readily accessible for him. It was not enough to have well-developed generic skills; he also needed the initial learning, which was subject specific. While a PFL approach to transfer emphasises generic skills, it also stresses the importance of a solid knowledge base.

Learning as a social or solitary activity

At the present time, within education and training, there is considerable support for the view that learning is a social activity. While many examples given by participants provided evidence of the social and situated nature of their learning, other examples were suggestive of individual and/or general learning. Typically, individuals provided examples that fitted both categories. P3 found that she needed to talk with colleagues and friends for her coursework. If she had attended a contact institution, she may have been able to glean the information she needed from fellow students. However, she was forced to take into account the social and cultural context she was in and tailor her communications so that her needs were met without alienating the people she was working with. This suggests that she was acquiring a depth of interpersonal skills, which were likely to hold her in good stead in future situations:

> *Oh, because I was going, you know, talking about my assignments to people at work or to friends, and just because it was one of those papers that you did have to talk to lots of people, because I certainly don't have enough knowledge to do it on my own, and not enough hands-on business knowledge. So I did have to talk to friends who were in business for themselves and who've never done any study and really think it's a load of old rot, but haven't been quite rude enough to say that. But you know, you get the idea from them. But because I was having to ask them questions and share what I was doing with them, I was taking a risk. So I had to approach it in a way that I wasn't going to get shunned or get into an unnecessary debate about the worthwhileness of it. So I think it did make me take personal risks, with my pride. So that has really been useful for me.*

P23 loved learning and provided ample evidence of drawing on a range of learning strategies and of engaging in both near and far transfer. In her interview she described how her job and her roles within her organisation continued to change and grow in tandem with her studies. Here is her description of how she learns:

> *I am an individual — I learn things on my own. I tend to observe, suck things in and go away and think it out. I then like to come out with a clear plan in my head, a structure as to what I perceive as an effective way of getting what I need. And that's not saying that within that I won't look at things from different angles — the kaleidoscope — sort of. I am a person who will write notes, and use different colours, and also do drawings when I am getting bored [laughs]. So I think I learn through observation, but then sitting and nutting it down — to the nuts and bolts — but there has always got to be that time where I go away and think about it.*

Integrating learning

Earlier in this section, examples of the ways which individuals set about learning were described. A number of participants went on to describe moving beyond reflecting and relating new learning to existing knowledge. They transferred what they were learning into their work contexts:

> *P13: Yes, you'd find your brain would wander off, and think, 'Oh yes, well, that's a bit what it's like at work'. And you'd put that into a context of — 'Oh, well, that could be why these things happen'. Or, 'Maybe the question we need to ask — of the organisation is x, y and z'. So, more about questions, I think, rather than …*

> *R: When you say that — can you explain a bit more about questions?*

> *P13: Well, posing questions for yourself, I think, rather than — I mean, sometimes you might share them with your peers; at management meetings or something an issue comes up, we might — you know, 'I've just been studying this, and this came up'. I couldn't pin down any, apart from the example we've just talked about, in terms of organisational politics. I think it's that mix of just broadening your own information base. So when I coach and talk to my team, I've got a broader range of examples to draw from, about why certain things might happen, or how they actually position issues, deal with — whether they're dealing with a management team or they're dealing with senior management. Because there are certain behaviours within organisations. So I think it just gives you a broader information base that you use all the time, really.*

A number of the students took the coursework in their stride either because it was closely related to their work experience or because they were experienced tertiary students. P17 commented, *It's all pretty straightforward stuff. It's not complex stuff.* More typically, participants would from time to time have difficulty with a course or part of a course. Most would put extra time into their study and seek help from friends and colleagues and sometimes tutors:

> *P22: I'd typically find that's where I've got to put in more study. Doing some extra reading and so on, to try and get a better grip on what it is. And talking to friends and colleagues that were familiar with it. I have found with some of the courses that some of the instructions could be quite vague, particularly with the assignments, hard to find out what they're actually aiming for. On saying that, I've never had more than forty-eight hours — I've never been that way for more than forty-eight hours — after I've contacted The Open Polytechnic.*

While many participants were working in accounting areas, those who were not struggled with accounting. But some of the accounting majors found the management papers daunting:

P24: I really struggle with the management papers. I find them very difficult, whereas the accounting and tax papers I just flick through. When we have to write down these essays and long screeds of stuff, I really struggle. If I was given some financial details and you had to set them out in the right format, accounting-wise, that would be a ten-minute job.

While finding some aspects of courses hard, most participants also valued having to think through and develop projects. P28 is describing one of the courses he was engaged in at the time of the interview:

You have to come up with your idea for a research project. That is the hard part — I am still struggling with that at the moment. You look at an organisation. Ideally it would be one you are employed in — or a similar organisation that you know — and you do a research project on some aspect of the management of that organisation ... So you probably look at the organisation from one of those and just do a broad examination of that organization. You do — the first part is to do a proposal — the proposal of what you intend to do, then you do an oral presentation. It's recorded and you send the recording and all your aids that you would use if you were to do a real speech and send that in for marking, and ultimately you do a final write-up. It was not quite what I expected of the course. But it was certainly — it was a good thing because it's going to make you think and not expect everything to be handed down and spoon-fed to you.

Integrating study and work

A number of participants' roles within the organisations they worked in changed during their course of study. Was there a relationship between development on the job and learning from the degree? A stark example was presented by P22, who was a factory worker when he commenced studying for the diploma, and at the time of the interview was a project leader for two critical projects for his organisation. He was asked about the relationship between his work path and his study:

That's a very hard one to answer. Yes. I believe that I wouldn't be where I am now had I not done the study. The study has given me the tools to further develop or take on some of the roles I have now. Whether it is through the knowledge I've gained through it or that I have more confidence in my own abilities so I'm prepared to take on more than I was before. The work has definitely fed the study. I would have found it very difficult to be in a factory situation, to relate to some of the things I was discussing and working on, in the papers.

Talking with colleagues, managers and clients sometimes opened up opportunities to integrate learning and work. However, the learner may have to take risks in order to discuss what they have been learning with others. Some described taking 'calculated risks'. P13 sought out, and recognised, opportunities to link learning and work. He provided many examples of transfer. A feature of his accounts was his preparedness to engage with his managers and colleagues:

> *R: In some situations, people would be nervous about sharing things, just out of a lack of confidence. Obviously, you haven't been?*
>
> *P13: I'm not known for being bashful, no!*
>
> *R: It's almost like when people are learning a language, if they won't try it out, they're not going to get it. You obviously do try it out and put it out there?*
>
> *P13: Well, I think the other thing you learn through a structured study programme is actually the stuff you're being involved with and the stuff you don't know. And I think that's the sort of awakening, I suppose, that's happened to me over the last couple of years. While you think you might know organisational behaviour pretty well, from the pragmatic reality of living in organisations and your life of it, I think when you do some sort of study around a programme like that, you suddenly realise there's a whole lot of things you don't know. Some, anyway. The issue is about how you gather all that information. And generally, I think — I've found anyway, if you can get — if you're prepared to share things with people, they're prepared to share things with you. And that actually helps fill in that jigsaw of all this information. Because people have all sorts of experiences that can either add or subtract from ... it doesn't matter particularly which paper it is. They've got a lot of their own experiences they can share with you and say, 'Oh well, have you thought about this?' Or, 'Maybe you could think about this, this way'. You know. Or, 'When I did ... whatever I did ... this was the issue'. So it just helps you, I think, once again, get a bigger frame of reference to think about things.*

Not all participants were able to discuss with others what they were learning. P13's situation of having informed and interested colleagues meant he received input from his colleagues. In contrast, P16 found that she rarely discussed what she was learning with friends or colleagues because they were not interested. However, her partner sometimes was:

> *Like when I was doing the computer course, I discussed that with my partner, like something you read about, things like that. He was interested in that. But he's not into things like this really. Probably some of the things. Because he is in a managerial position so he would use this sort of thing in his role, too.*

A number of participants were able to discuss aspects of courses and their own learning with a range of people in their organisations. When P22 was asked why he talked with others, this is what he said:

Well, one reason, of course, is the structured, formal reason that I'm doing one of the assignments or a part of the project I'm working through, that I'm asking for help with, or interviewing somebody about. The other thing is points of interest. I've read something or covered something which applies entirely to a situation which I've seen or a person that I see managing in a role. And part of it, I suppose ... You read about it and you think, 'Yes, that's exactly what he does or ...' . And another reason, of course, would be topic of conversation.

Two of the participants who were not employed at the time of their studies had ongoing relationships with former workplaces, and used them for projects and other assignments:

P21: The guys here are still interested in what I'm doing. It's not because I wanted to leave; it was because I had to. So, they're still quite interested in what I'm learning, how I'm progressing, things like that, so that's good. My assignments have been studies on [ex-employer] here. I've done these things and they're quite interested in my reports that I do present. They like to look at them and try to understand what I've been writing, especially the last one, management. I was looking at doing a study on the manager and his techniques, and then to apply it to previous models. And I had to interview some staff, to gain their views on how they view managers, and managers' views of workers. And just sort of map it out. It was quite interesting when we got the results. They were quite keen to know the results, as well! So that's about the extent of it. But to come here and say, 'Well I've learned this', in conversation, it doesn't happen.

P18 preferred to work out things for himself rather than discuss them with colleagues:

P18: No, I'm a bit — when it comes to that I just fire ahead and do my own thing. I'm a bit — I know a lot of people do like to get together in groups but I just like to get in there and tackle the problem and just find the answer myself. Whether it's the right or wrong way ...

R: So do you do it by trial and error?

P18: Trial and error. Yes. Reading the comments from tutors and that, when you get things a little bit wrong. Following up. But really just getting in and trying to use common sense, a lot of it. A lot of the aspects of accounting, I already did have. It was just filling in the gaps of something I hadn't done before. But some of the new stuff was quite logical, but just really trying to piece it all together.

This chapter has explored learning to transfer from the perspective of the learner. The following chapter looks at examples of how learners transferred what they had learned in B.Bus courses to their everyday working world.

11. The transfer experience

> We talk about 'transfer of learning' when ... learning is displayed in a situation somewhat different from that in which the original learning occurred. If the transfer situation is so different that the use of learning encounters some barrier or difficulty, we speak of 'problem solving'. When the situation is greatly different and the distance of transfer needed is greater still, we speak of creativity. (McKeachie, as cited in Haskell, 2001, p. 23)

Introduction

Transfer is about 'applying' or 'adapting' learning to new and different situations. But what shows that learning is applied? What demonstrates that learning is put to use in new and different situations? This chapter focuses on what happened when the participants came to transfer learning post-course, post-initial learning, and in new and different situations. How do they know they transferred learning? How does the researcher know? How is transfer of learning measured? In this study these questions were approached from diverse angles. One question addressed transfer directly: *Can you describe for me an incident or an example where you have tried to adapt or apply what you have learned to a real situation at work*? If participants found it difficult to identify an example, an additional question was asked that tended to elicit responses related to the transfer of generic skills and dispositions: *What's different about you? What is different about how you are at work compared to how you would have been if you had not completed these courses*?

Earlier studies of transfer were reviewed in chapter 2. When transfer was studied under experimental conditions (Gick & Holyoak, 1980; Hendrickson & Schroeder, 1941; Judd, 1908), effort went into ensuring that all 'learners' started on an identical footing, and that the learning situation and learning task were identical for all participants. The transfer context and task were controlled in the same way. Typically, the tasks were simple and artificial. The current study is a naturalistic study, which seeks to understand the authentic experience of learners in both the learning and transfer contexts. No attempt was made to control the learning or the transfer tasks. It should be emphasised that each of the participants brought to their studies a unique combination of prior learning and experiences, skills, attitudes and dispositions. The nature of distance learning and the ability to use workplace situations for course projects presented participants with opportunities to acquire and develop skills and knowledge, in particular declarative (knowing that) and procedural (knowing how) knowledge. In addition, how the individuals went about integrating the new learning into their existing mental schemas would have resulted in diverse learning for the participants.

Those interviewed reported a surprisingly high level of transfer, which was in marked contrast to what is predicted in much of the literature on transfer (Claxton, 1999; Detterman, 1993; 1983; Misko, 1995, 1999). A number of participants reported on very positive experiences with transferring learning from their coursework to their workplaces:

> *P18: Oh, definitely. To be quite honest, the whole course I found myself applying to where I worked.*

Transfer as direct application

In chapter 2, the theory of identical elements and later versions of that theory were discussed. The history of transfer research records that, for much of the twentieth century, transfer of learning was regarded as difficult to achieve other than in circumstances where the learning context and task were identical or at least similar to that of the transfer task and context. What was 'learned' was what was applied, a view of transfer that Bransford and Schwartz (1999) described as *direct application*. Direct application embraced simple and near transfer, but also embraced more complex forms of transfer, provided that the learner had been prepared for the transfer task and context. Direct application could occur along a continuum, from semi-automatic responses to more mindful responses. Every participant in the interview stage of this research provided an example of direct application of learning. Those in accounting roles were able to directly apply much of what they learned from accounting courses to their work:

> *P24: Definitely some of the papers have been totally applicable to my work. Tax, financial accounting and auditing — all those sorts of things are totally relevant to my work, to my job. ... I apply tax stuff that I've learned on the course all the time.*

Some examples of direct application described by participants were in keeping with the notion of low road transfer as discussed in chapter 2. The learner gradually stretches out the application. P27 describes how she needed to learn to use a database software package for her coursework and, having learned to use it, she then began using it at work:

> *Yes, on using the packages, it prompted me to use Microsoft Access, which I'd never used, but we'd had it at work. From that, I extended that into the workplace and that was really good ... We've set up several databases now.*

In a different vein, P21 described learning to cope with problems in his personal life, and the difference learning new ways of approaching problems can have:

P21: Yes, absolutely, yes. The first time that something bad happened, you hit the panic button, but that doesn't happen any more.

R: Something bad happens?

P21: Yes, you step back. You — like I say — look at it objectively, you analyse things and then you start looking at choices and so on. It's the problem-solving model, whether it's applied from law or management, or human resources, or even information technology. They've got a model that comes through all the time, and that's the way that you start to think.

R: So did you consciously adopt that, or has that happened incrementally?

P21: It's happened incrementally. Yes.

In a similar vein, a number of participants commented that, as a consequence of their degree studies, they had become very competent in preparing and producing reports. Many of the courses required reports, and gradually they became adept at producing reports in both academic and job contexts. Their accounts are consistent with a number of complementary approaches to transfer. As discussed previously, Perkins and colleagues used the concept of 'low road' transfer. The concept of 'low road' transfer, which allows for incremental stretching and extension, is compatible with Singley and Anderson's (1989) ACT* theory of development of cognitive skills and transfer, which allows for adaptation. The latter theory covers declarative and procedural knowledge and the ways in which procedural knowledge is stored and modified as production rules which can then be retrieved in appropriate situations as multi-step 'If-Then' rules.

Transfer of learning may be described in terms of a specific event or a series of incremental steps forward which draws on specific knowledge or generic skills. One participant who reported a high degree of transfer was describing how he identified a 'tax write-off' his firm was entitled to:

P11: The course didn't actually tell me how to do it — it prompted me to think about it — investigate it with the IRD and stuff like that. So that was quite good. That was a direct application. I think I started in my current position April last year. So I was getting into accounting then — over a year now — and in fact my accounting skills have definitely increased.

The 'tax-write-off' was an example of transfer in a specific problem-solving situation. P11 went on to describe more general transfer of learning. The transfer of generic skills such as problem-solving seemed to be an incremental process with participants' examples of generic transfer reported drawing on a range of learning experiences. P11's account of transfer of generic skills was one that illustrated the cumulative effect of transfer of learning. He credits becoming more professional in his work not to acquiring and applying a specific skill but to continual simple transfer of learning from different courses:

> *In terms of my neatness at work, or — it's hard for me to describe but I have become more professional — if that makes sense. Part of it is when I originally started here, there were a lot of manual forms. Now I've got a lot more of that on Excel. Various other little things — it's nothing very revolutionary. I am just trying to bring efficiencies. I am trying to apply my information, my IT skills, at the same time as my accounting skills ...*

Other occupations drew on a range of disciplines, including accounting. A consultant, P5, was confident he used much of what he learned in courses at work. While he was not working in an accounting role, his description of using skills and knowledge from accounting courses demonstrated significant higher level cognitive processing. He clearly integrated learning and consciously set about interpreting new information or learning in the light of existing knowledge:

> *I've used the accounting. I'm now in a situation where, in an hour's session, I have the ability to get as much information from a client as possible. So I'm getting all the financial information from them and it's the ability to come back and interpret that. And, I mean, in accounting, you're hopefully working with the company, financial results, in an automatic way, or have the ability to get some information, and the rest of it I just try and decipher from the client. And then bring that back and put that together so I understand their position. And then, 'How are we going to contribute to that?' and, 'What are we going to cost our client?'. And making sure we've got our numbers right, that we're going to make the revenue from that. It's probably not using to the nth degree some of the accounting packages, but it's using the templates, the way they'll logically go through the different parts of the business and establish costs.*

Complex transfer

Workplace problems are usually complex and a problem solver usually needs to integrate and adapt learning from a range of sources to address them. One of the participants, P29, described bringing together learning from a number of courses to put a debt management system in place for the organisation she worked for:

> What I actually had to do was to put in place a system whereby we reduced our debt level and we managed our debt — our bad debtors. So I had to put in place a system — so that was the information systems paper. I had to put in place an accountability process, a paper trail whereby the process of warnings was recorded and that people's accounts were adjusted accordingly, and the business management in terms of letters that we sent out to people. And how we managed the meetings we had amongst the four of us when we discussed what to do about the people who were not responding.

Not in the textbook

The participants were asked to describe an example of when they tried to adapt something that they had learned to a real work situation. One of the participants, P25, a small business operator, questioned the adequacy of the courses for preparing people for real life problems. She was disappointed with the degree. As evidence of the inadequacy of a course, she provided the following example:

> *P25:* Well, this client had come to me and she said, 'Look I've got a real problem at work.' She's the owner of her own business, and her staff turnover was absolutely incredible. Nobody seemed to be happy there, and it was affecting the clients. So, in a small town like this, this was starting to affect the whole community. Because everyone hears about it: 'Oh, don't go and work at X's, you know, something is wrong down there!'. So we sat down to try to analyse the situation, and went through the formula, but it wasn't that straightforward.
>
> *R:* So when you said 'the formula', which particular formula?
>
> *P25:* You interview the people, you analyse the interviews, you do the one-on-ones, you then sit down and you analyse the whole lot together. No. Nothing came out of that ... It actually turned out that 90% of the problem was X herself, which I had been prepared for. But not to the extent that it came out. And that was very difficult — how do you tell your client that she's the problem?
>
> *R:* And is that the part that isn't in the theory?

P25: You're darn right. Yes. It's how you deal with that.

In P25's assessment the example described demonstrated the inadequacy of the course as preparation for real work situations. From a transfer of learning perspective, the example demonstrated transfer of learning in relation to research skills, problem solving, interpersonal communications and organisational behaviour. However, it was clear that P25 had not been prepared for the need to adapt learning to complex situations. P25's expectation was that learning would be able to be directly applied, without the need for creative adaptation, or innovation. P25 wanted to be provided with a formula which would work to solve interpersonal problems in much the same way that an accounting formula could be applied to the financial side of the business.

Transfer to new and different situations

Transfer of learning to new and different situations is of particular interest in this study. What is transferred? How is it transferred? What happens? When is a connection made between a new situation and previous learning? An interesting account is provided by P13 of a situation at his workplace where he and his colleagues were embarking on a structural design project. He recognised the situation as similar to one he had learned about and remembered a textbook with a framework based on a series of questions for structural design:

P13: Yes, I went back and refreshed myself. Then we did a group exercise the following day, in terms of 'Here are the questions. What are our collective answers?' And we sort of cobbled those together. Then we said, 'Well, given all this information, it looks like this is the direction we should go.'

R: So when you — this is the interesting part for me — so when you went to use this particular thing, or adapt it, did you pick it up holus-bolus and just use it as it was in the textbook, or did you modify it in any way?

P13: Well, I think there's always some modification because of the difference between public and private sector. So some of the drivers that you have in terms of the private sector you actually have to translate into a public sector view. So I suggested the course of action, which everyone said, 'Oh yes, OK, that sounds all right'. And, for example, things like one of the questions was about resource availability. So, in the public sector context, you always get this debate over, well, your baseline budget is X, which buys so many outputs. So, we had a big discussion about whether that actually meant we were scarce on resources, or whether we were actually talking about something else. So I think you do — I

think always you have to evaluate any sort of framework, to pick up, to see if —
well, what does need tweaking to deal with the situation, to be modified in any
way?

Note that the example provided by P13 is in keeping with a PFL approach. He did not automatically apply what he had learned previously, but he made the connection between his previous learning and the current situation. He then drew on his resources: the textbook, his colleagues, and his knowledge of the environment, to modify his knowledge. In essence he created new knowledge through the transformation of his existing frameworks or schemas.

Transfer reconceptualised as PFL

In chapter 3, attention was paid to the reconceptualisation of transfer as Preparation for Future Learning (PFL) (Bransford & Schwartz, 1999). The proponents of PFL argue that the traditional approach to measuring transfer was one which relied on direct application (DA) and a sequestered problem-solving situation (SPS). If a DA and SPS approach had been used, a number of the examples of transfer of learning that were identified in the interviews would have been overlooked. For instance, P31 demonstrated with examples her recognition of the relevance of her learning to her employer. In these examples P31 made the connections between her employer's problems and her own learning, refined and confirmed the problems through clarifying questions, then, later at home, used course materials and textbooks to research the problems and the options. Examples provided related to employment contracts, tenancy laws, investments, and environmental law:

P31: Well, the guy I work for, because he's sort of a developer, and he buys a lot of
buildings to rent out, like, he's just bought this big building in the city that covers
a block. And it's leased out to a big timber company. But with him — I'm trying
to think of a specific. There are things with him where I've said to him, 'I'll go
home and get my books out, because there's laws on that'. And just with even
partnerships and company law... Even like — there were some environmental
issues and things with the timber processing. And it's been really, really helpful.

Transfer of generic skills

A surprising finding from the interview stage was that transfer of generic skills was common and significant. Participants reported on the development of generic skills through their degree courses, and then on the subsequent transfer of those skills to everyday work situations. Items in the questionnaire focused on generic skills such as problem-solving, critical thinking, learning to learn, communication, self-management, working with others and technology. The first version of the interview schedule used with a small number of students did not directly refer to generic skills, and analysis of the first transcripts identified this as a shortcoming. A statement and an open-ended question were then developed for the interviews to explore this question. In this chapter, generic skills are discussed using categories which emerged from the interviews, and thus they reflect the emphases of the participants. These include problem-solving, thinking (open-mindedness, broadening of perspective, questioning), and dispositions, with particular attention paid to confidence. The question asked was:

> **Q14:** *Currently there is a lot of interest in what are sometimes called essential, core, or generic skills. These are skills like critical thinking, problem-solving, communication, working with others, technology, and learning how to learn. To what extent do you think you have developed these skills through doing the degree?*

Responses to this question tended to be very general, such as:

> **P19:** *A lot. There's no way I could do that if I hadn't done the degree. I would be stumbling through not doing very well at all ... If I want to know something, or if I want to learn something, I know how to go about doing it. Simple things like — if I am going to the library, for example, I know how to get the information I want rather than fumbling around maybe getting this and maybe getting that. It's more — I guess — when I do something, it is in a more direct, focused way.*

There were a variety of comments in relation to specific courses. Typically, the participant would isolate one or two of the skills listed to comment on:

> **P28:** *I think that the accountancy subjects are probably almost course-specific. It's probably pretty difficult to transfer specific subject matter from one course to another because what you learn on one course - it almost stays with that course when you go on to the next accounting course and you are learning something totally different again. So, particular subject matter in the accountancy courses, NO* [emphasised], *but the general skills, such as conceptual thinking, problem-solving, I think that cuts across all the subjects.*

There were other questions which provided significant data about generic skills. The most effective question was a question asked of participants who had trouble thinking of specific examples of transfer:

What's different about you? What is different about how you are at work compared to how you would have been if you had not completed these courses?

Question 19 also drew responses that were pertinent to the developing insights into the acquisition and transfer of generic skills:

Do you think that your doing this course benefited your employer (or your business) in any way? Why? Why not?

The responses to such questions often depicted substantial development and transfer of self-management and communication skills. For instance:

P7: I'm far more confident. I'm more structured in how I do things, which is I suppose really good, because I'm more efficient, so then I can power out more work. Yes, I think things through a lot fuller, which has been official, because you can quite often get a result that is suitable to the organisation, by making sure that the correct information — that you don't go off half-cocked.

What had not been anticipated was the degree to which participants would refer to both the growth in self-confidence and the way it affected transfer of learning.

Problem solving

Problem solving is both a commonly cited generic skill and one which the degree seeks to foster

P11: It's just like an idea, sometimes the opportunity for the idea to be applied, so then its, 'OK, what has to happen to make it a reality?'. I try to do a lot of this myself if I can and I talk to other people about it. For example, at work at the moment we have an accounting software package but it is lacking a few bells and whistles. But at the same time our needs are quite unique. We can't necessarily just take another program because it wouldn't solve the problem. And so it's a matter of going through and researching and investigating. Talking — I think to my manager and the other person, the sales manager, I guess — about what we could do and trying to get a better idea.

By the time P2 was interviewed she had graduated from the programme. In her view, she entered the degree with well-developed generic skills, such as communication and technology skills, and these did not develop through her studies. However, she thought her critical thinking, problem-solving skills and project-management skills had developed through the degree courses:

Problem solving: Yes, that helped. I've got a lot of problem solving out here now in my project work and it's just knowing there are — you can't take short cuts. If you take a short cut in doing an assessment, you lose marks. And I think it's just knowing you've actually got to go through the right processes, the right channels and — sort of be open to other people's viewpoints in the problem and in solving the problem. And I think that probably it's become more — the area that I'm talking about is more predominant in the Māori culture/Treaty of Waitangi sense, for me here at the moment, because we're having to be far more responsive. And we deal with a lot of Māori clients, and we've got a couple of Māori colleagues who are forcing us to face the issues and who are questioning every decision we make. They're saying, 'Now, where have you included the Treaty of Waitangi conditions in this?', and we've been really forced to face those problem-solving areas.

Likewise, P2 was conscious of having learned project management skills through the degree, and of applying these in her current role. She describes learning these skills in a marketing paper and now applying them in a public sector environment:

In that you had to always have an objective for your project, and you have to have a time line set up, how you're going to achieve it. So in the marketing one, for instance, the marketing paper I did, when you were trying to get a product off the ground, you had to come up with a plan of when you've got to get the prototype out, and do your advertising. So you've got to meet the deadlines. And that sort of - from that perspective, that's what I'm doing now. I've got to set deadlines and meet them, in the project work.

The courses focused on developing the skills, knowledge and understanding required for working in the business world. Not all participants had business contexts to transfer their learning to. By choice and necessity many applied and adapted what they had learned to non-business contexts. P14 describes how she applies her learning to her family life, using planning, goal-setting, problem-solving, and research skills:

P14: You tend — when you're on the benefit and when you've got children, and you've got all those sorts of conditions on you, you can get very focused on a very narrow path. And it helped me put my life in perspective, because I thought, 'well' — it made me look at five years down the track, ten years down the track ...

R: As an individual?

P14: Yes, and plus, with the children — where would we be in that time? What planning had to go into action? Like, my son has decided that he will probably be doing sciences. He's fifth form this year. So I had to think, 'OK, that's university, or if he can, through one of the Forces'. So we've put into place options that we've had to look at. And with my daughter, she's got a disability and she goes to secondary school next year. So we've had to look at secondary schools, how they've come out with the ERO [Education Review Office], how they handle that sort of problem. Do they handle that sort of problem? Class sizes, things like that.

Spirit of transfer

One of the participants, P27, who was part-way through the degree, reported the degree as making a significant difference to her. She had enrolled because she wanted to extend herself at work and wanted a more stimulating job. The degree helped her feel that there was more she could be doing within her existing job. She described a range of initiatives that she implemented ranging from performance appraisals to databases:

When I started there, I was working just over 38 hours a week. So I've managed to cut that time down to 33 hours, and now I still have a day where I don't have things to do. I always find things to do. But whereas in the start, we used to have to get in extra people to help us out each month, because we couldn't keep up with the work ... The business has increased. I put it down to the systems now set up and in place that make it easier.

Over a period of time P27 had set up databases, centralised and automated a number of functions, and made the office more efficient. These were her own initiatives. P27 made connections between skills and knowledge acquired through courses and her own organisation. One would imagine that it would be relatively rare for an employee by their own initiative to identify opportunities with which to adapt learning and which led to a reduction in people needed to handle additional work. The examples she provided of using learning at work suggested that P27 had a strong disposition towards transfer. She demonstrated what Haskell (2001) referred to as 'the spirit of transfer':

It's how you look at the course, I guess. I try, any course I've done, I look at how I can adapt that into the workplace, so then I'm going to get some experience from the course at work. So I guess I'm trying to make the course work for me.

Haskell (2001) described the spirit of transfer as a disposition towards deep learning. His description of the spirit of transfer resonates with Bransford and Schwartz's (1999) view of transfer as Preparation for Future Learning (PFL). This can be seen in the comments of the participants, including those who lacked the opportunity to transfer learning to their current work. One of the participants, P15, explained that while his 300-level management course was not relevant to his job, he actually thought about what he was learning in terms of his future plans for his own company:

> *Not directly in my own work situation, but I was definitely thinking about them in terms of future work situations.*

However, there are also those who lack the 'spirit of transfer'. One self-motivated learner, P22, had been explaining how adapting or transferring learning to work situations had to be worked at. He went on to comment on a colleague who did not have the same disposition to transfer:

> *P22: I know somebody else that's done some learning through the company. And the objective there for him is to pass. As long as he passes, that's all that matters. So he's not really using what he's learned.*

> *R: And he isn't motivated at all?*

> *P22: No, he's happy cruising along the way he is. And if he gets a pass, well, that keeps the company happy and he's happy, so everybody's happy.*

Dispositions

Dispositions and dispositional learning are emergent areas in the transfer literature (Billett, 1994; Fogarty et al., 1992; Haskell, 2001). Dispositions featured strongly in the interview data. The interest in dispositions in the current study arises from two concepts of dispositions:

- dispositions as 'attitudes' or 'habits' to be nurtured within a learning environment and capable of being transferred to new situations; for instance, the dispositions of open-mindedness, curiosity, persistence, love of learning

- dispositions as agents of transfer, for instance, 'the spirit of transfer', or attitudes such as 'confidence' or 'willingness to seek help', which are part of transferring learning from one situation to another.

In the late 1980s and 1990s there was increased interest in the role dispositions played in learning and transfer. Billett (1994) reported that workers' descriptions of skilled work included 'dispositional knowledge'. Billett was referring to the knowledge pertaining to appropriate values and attitudes and awareness of what is required in a given situation. The workers in Billett's study referred to being punctual, cooperative, assertive, courteous, and having the work ethic (being prepared and willing to work). Haskell (2001) argues that 'significant and general transfer is primarily the consequence of personality and other dispositional characteristics, such as attitude, motivation, and feeling'.

Confidence

The evidence from the interviews is that confidence is hugely significant to transfer of learning. Participants were not questioned about confidence, and yet nearly all discussed confidence. Typically, those interviewed reported that they had grown in self-confidence, and that confidence enhanced the likelihood that they would try to adapt learning to new situations. For many, self-assurance or self-confidence was something that they had learned through their studies and were now transferring to their workplaces. 'Confidence' worked as an enabler for the participant and provided a springboard for the transfer of other skills and knowledge. It was also a factor in learning, in particular in laying the groundwork for future learning, for PFL. Confidence, for many of the participants, arose from their assurance about how to go about dealing with new situations or problems. This assurance had developed through repeated practice in refining problems, utilising resources to solve those problems, and in trying things out. These students used everyday resources such as colleagues, friends and family, textbooks and other resources.

P7 describes *confidence* as a personal attribute developed following a growth in knowledge and understanding. Having confidence means that P7 is more likely to ask questions. Asking questions is a component of the PFL approach:

> *I think just giving me more confidence in myself, understanding how people think, a lot of it, the communication skills. How the company runs its business — why we do things like we do ... I tend to sometimes be a bit more sheltered, and it's given me a broader understanding. I'm not afraid to go and ask.*

She expands on the link between self-confidence and asking questions:

> *I think, just more confident in either what they're discussing or — yes — in your own abilities, that you can do something. So it's a self-esteem thing. You don't feel silly. Like, if I have an IT question to ask, I don't feel silly going and asking them because I have an understanding of what they're talking about.*

While self-confidence helps individuals express themselves, try things out, and ask questions, it also engenders confidence in others:

> *P13: My role is about providing a lot of advice to my boss, so I think it just gives you a greater depth to provide examples of odd things. And I think it just helps in term of — studying just helps in terms of some confidence, if you like, about the advice you're providing. It is backed up by academic theory sort of thing.*

> *R: So you feel more confident, or they feel more confident?*

> *P13: I think it's a bit both ways as well. If you feel more confident, it helps them as well, to weigh things up. Probably not the most modest reply, but I think it works.*

The following contribution is about confidence but is also linked to the organisation of knowledge. Being able to identify knowledge, in this case procedural knowledge, assists in making that knowledge accessible for future use:

> *P15: It gave me more confidence in possibly the way that I plan things. I had a series of set ideas, I guess, as to how you'd go about doing — for myself, personally, how I think about things in the future, and by doing the course it's actually quite good to actually see that what I was thinking personally is sort of the way it's formally done in business — that kind of makes sense.*

Later on in the interview, P15 returns to the linked themes of organisation of knowledge and confidence:

> *P15: I guess it really made you — it just formalised for me what really you needed to consider.*

Sometimes enhanced confidence could be attributed to a number of factors. One participant felt that the degree had enhanced her employability and increased her confidence. The key to her enhanced confidence was the development of a strong knowledge foundation. As a result she played a more active role in her workplace:

> *P23: What they have given to me is versatility — in that I feel much more versatile in the fact that I could go out there and get a different job quite easily. And that's a confidence factor thing. And probably, or definitely a lot more confident when I say something at a meeting — I know that I can probably back it up as well — with research, if you like. Yes. So I feel that probably I have a bit more power as a result — and a bit more respect.*

One of the participants, P3, described her growth in confidence, and how this altered her relationship with clients. Her confidence grew partially from interviewing clients for her coursework, and partially because a recent course assisted her to utilise and integrate previous learning from other courses:

> *P3: Well, I was thinking before, too, I keep saying about confidence, self-confidence. That's what it is. What it's done is brought everything that I've learned so far together and given me the confidence to use it. Whereas before it was like, 'OK, I've passed the paper', and you forget about it. But now that paper has brought it all together and I do feel like I can use it. Or the bits that I've forgotten, that I'll delve a bit deeper and I know where to look now for information that I need.*

Note that P3 referred to having the confidence to use what she has learned. How she describes learning and transfer is in keeping with PFL: *Or the bits that I've forgotten, that I'll delve a bit deeper and I know where to look now for information that I need*. In the past, when a client sought help with an aspect of their business, she lacked the confidence to deal with it herself; instead, she would say:

> *'Well, I'll get my boss, I'll get [name] to give you a call'. But now, I can quite confidently just have a conversation without ... I'm not sitting there thinking, 'Oh God, I hope I'm ...'. I'm not having to bluff my way through. I'm actually — it's stuff that in the past I might have gone home and thought about, and thought they could do this, that or the other, but never had the confidence to actually speak my mind. And now, I think my demeanour with clients has changed.*

So what made the difference? Where did the newly found confidence and the changed demeanour come from? P3 identified two significant factors: firstly, that the course helped her make sense of disjointed learning from different courses by bringing it together; and secondly, that the course forced her to actually interview clients:

> *I think that particular course has, as I said, brought it all together so that ... The other part of it is because I was having to interview clients throughout the course, for assignments. In other words, bite the bullet. That's quite nerve-racking. It's just that little bit of practice.*

It is interesting to note that P3 insisted, against the advice of her lecturers, on doing her case studies on authentic small businesses. She did so because she wanted the course to help her in her work. Her approach paid off.

A small number of the graduates were not employed in their chosen fields. P8 was in that category. While she stated that she had gained confidence from her studies she also saw herself as still lacking in confidence. She was working in a routine administration job that did not provide her with much scope to utilise her skills and knowledge or to look deeply at issues. P8 said that she would *so love to be able to say yes* to the question about adapting or applying learning to her work. She suggested that she was lacking in *confidence in my own ability, confidence in what you are trying to get across*. When probed further, P8 wondered if perhaps it was harder to gain this confidence through correspondence study and that maybe that made the transition from theory to practice harder.

Becoming more open-minded

Another theme running through many of the interviews was participants' attribution of the development of a more open disposition and way of thinking to their degree learning. One of those who had completed the degree, P4, put it in these words: *I think it has made me much more open in my thinking ... not making assumptions*. Another participant in the early stages of his degree was developing an openness to different ideas:

P21: The first thing they'd tell me is I probably wouldn't be so pig-headed!

R: You're less pig-headed?

P21: Less pig-headed, more open. More ideas.

R: It's interesting. Has anyone told you that? People have, right?

P21: Yes, brothers, yes — other people ... I view things differently. I won't form an opinion before things have been investigated. More thoroughly than I used to.

Family life also provided a context for transferring or trying out newly found skills and knowledge. P21 spent most of his time caring for his children:

Yes, it's using the skills. Like, one skill is people like to be involved. I involve my children about the house, the home, and some of the decisions we make ... 90% of my time is still spent at home. The only thing that I can see coming through is my communication with my children. Probably being more open and putting yourself to a different level is quite an art.

P21 was studying part-time while being a full-time caregiver to his children, and his examples of becoming more open related to family and social situations. Others reported similar changes within a workplace context:

P28: I'm more accepting, more willing to hear other people, not as hard-nosed as I used to be. More — I feel that I am able to listen and try and think through what other people are doing, looking at things more critically now than when I first started the degree. I sort of always had this sort of line in the sand, where everything was like YES-NO. Everything either fitted into the yes-no. It was either right or it was wrong. But when you are living in a situation which is constantly changing, you have got to recharge, change your thinking and the way you do things. Things as are not as clear-cut as that. I do think, I do think things through more critically, more patiently probably than I used to.

Another participant, P22, acknowledged that, although he had always been open to new ideas, he has become even more open since embarking on his studies:

It has certainly opened my mind, broadened my mind, in that I certainly look at things from far more angles than I used to, and I'm certainly — I've always been open to new ideas, but I'm open to the way that ideas are presented a lot more than I was ... The way people present ideas, the way people are, sometimes it's very easy to immediately form a like or a dislike, or think they know what they're talking about or they don't know what they're talking about. For example, whereas I'm a lot — I reserve my judgement for a long period of time, if you like. I listen to what they have to say before I start letting my judgement of them cloud my judgement of the ideas that they're trying to put forward ... I was used to dealing with perhaps a certain type of people, felt more comfortable dealing with a certain type of people. But throughout some of the courses, and the different styles of management, problem solving, etcetera, I've learned that I've found myself more open to different ways that things are presented to me now.

Participants generally reported developing a questioning stance, and that they were open not just to the views of others but also to change. One commented on learning not to just accept the status quo:

P28: I have taken — I have a different approach and that has all come about as a result of my learning. So I am thinking of different ways of doing things — if I feel it is better to do things that way. I am always looking, wanting — always thinking that there is never a way that is a hundred per cent right — you are always going to want to keep improving — so I am always on the lookout for new and different ways of doing things. What I have learned from these courses is if you can think of different — think through these sort of things, think through problems — trying different processes.

What aids or enhances transfer?

When the participants were asked to comment on what had helped them transfer learning, a number emphasised relevance and usage at work. P24 worked as an accounting senior and her role involved going out to clients and setting them up with bookkeeping software packages:

> *The ones where I retain the information, it does stick with you. I keep going back to the tax and auditing, but it is something that I use all the time. I've found that once I learn it through my courses, I retain that information, whereas, perhaps some of the management papers, I don't retain it. I don't know why but I seem to remember very little about them.*

Typically, when the learning involved generic skills, such as self-management skills, the repeated application or transfer of such learning by the participant resulted in the forming of habits. Such skills may be nurtured during one course, but over time they transfer to 'performance' in other courses, and to work in general:

> *P22: One of the most influential papers that I did, that affected how I work, was one of the first papers I did, and it had a lot of time management skills in it. And — I can't remember what that was called. But it had a huge effect on how I worked and being able to plan my day. [...] And luckily, yes, it was one of the first courses I did, and I found it very beneficial, in planning out my day, my week ... [...] and I found that was — a lot of people have said to me, to do four papers a year, through correspondence, is a huge ask. And I think it was, you know, a lot of the planning skills that I learned out of that paper that certainly helped me get through my work, yes.*

This participant had six papers to complete for the degree. As he progressed through the degree his career leapfrogged ahead, suggesting an interplay among three factors: his own talents and dispositions, the degree experience, and the work experience. He is aware that his way of working changed:

> *P22: Well, as I said before, I'm a lot more flexible in both the way I respond to being treated, and the way that I treat others. It is quite a difficult one. In saying that, I'd suggest that my written communication skills have vastly improved. And that goes hand-in-hand ... I put in papers, recommendations, etcetera, all the time, every day.*

> *R: If you hadn't done the study, what effect would that have had?*

> *P22: It would have been a lot more difficult and I know two people in the last 18 months, two years, came from a factory environment to where I'm in now, that simply could not handle the paperwork and the documentation.*

R: And what happened to them?

P22: They went back to the factory. They chucked it in.

R: And that you suspect would have made a difference, the study?

P22: Yes. I'd already been doing the paperwork at home, and I'd already been getting coaching and advice on how to set documents out, how to explain things that work, or what doesn't.

R: From the courses?

P22: From the courses, from the tutors, yes. Of course I learned a lot more when I was doing a lot more of it, with practice.

Note that what P22 is describing is consistent with cognitive apprenticeships (Collins et al., 1989), by which the learner acquires cognitive and metacognitive knowledge and skills through first observing, then participating in, guided practice. The teacher (in the ODL situation, the tutor and the instructional materials) models tasks and creates a picture of the overall task. The teacher makes explicit the thinking behind each step to aid the learner's understanding of the underlying processes. The learner attempts the task and receives advice, guidance and feedback (coaching). Sometimes, the learner attempts the task in parts or steps (scaffolding), until they are performing the whole task unaided (and the teacher has 'faded' from the situation). Cognitive apprenticeships also include the steps of articulation and reflection. The learner articulates or makes their own thinking processes explicit as they tackle the problem or task, and they reflect on those processes. The model concludes with the phase of 'exploration', when the learner applies what they have learned to new domains or situations (Collins et al., 1989). This final phase is essentially far transfer (Misko, 1995; Royer, 1979), where the learner goes beyond what they have been taught. However, there is no simple recipe for nurturing transfer. P22 was an active learner, and engaged in a range of work and learning projects. He linked the interplay between a growing and changing work environment, and ongoing study:

The way I see it myself is that you are — the way you behave and react is based on what you know. Now what I knew say eight years ago was largely through my own personal experience and discussions with friends. Through doing these papers, I know a lot more around a broader range of things, if you like, and therefore I have more tools at my disposal, I suppose. Or I can react a lot differently myself to different situations.

R: I am interested in those two things you had happening at once and I'm trying to work out what it is that I want to actually know about learning. To what extent has the new experience — you moving from being at the factory to moving into the project leadership role here, while studying — how have they fed each other? What impact have they had on each other? Has either of them changed the other? Do you know what I'm getting at?

His response follows. Interestingly, in his response he acknowledges that he would not be in his current role, managing key strategic projects for his company, if he had not been studying. What he studied would not have made sense without his diverse work experiences. Which was more influential: the knowledge or the self-confidence gained from the study?

P22: That's a very hard one to answer. Yes. I believe that I wouldn't be where I am now had I not done the study. The study has given me the tools to further develop or take on some of the roles I have now. Whether it is through the knowledge I've gained through it, or that I have more confidence in my own abilities so I'm prepared to take on more than I was before. The work has definitely fed the study. I would have found it very difficult to be in a factory situation, to relate to some of the things I was discussing and working on, in the papers.

Another participant, P23, described how she developed her skills in finding information, analysis, and report writing through the degree. What had assisted her was the practice in doing the work, writing reports and the 'critiquing' or feedback from tutors:

P23: I don't think I would have got the promotions the same [laughs]. That's pretty much it. I think - I am more thorough in my analysis ... Certainly in all the prep work for the long-term financial strategy — that side of it — analysing our local environment — completing that sort of degree of research. That's where I think that sort of study course gives you the strength rather than the actual coursework a lot of time. It's about how you go about finding information.

R: Right, so you are conscious of that.

P23: Yes. Also, because you are forever churning out reports - my job is certainly a lot more of a breeze. I feel a lot more confident in writing reports.

R: Tell me why that is?

P23: Structure. A structured report — clearly analysed that I can — leading back to conclusions. Just the overall format.

R: So you feel you gained that knowledge?

P23: *Yes — when you are in a course — you are forever being critiqued in that field. And it's good to actually see what other people think and challenge how you set things out.*

Whether or not individuals transfer learning to new situations is partially dependent on the accessibility of that learning. The way knowledge (of all kinds) is organised and stored in memory impacts on its retrieval. Learning from the courses was sometimes about transforming or reorganising existing knowledge schemas and thus making them more accessible in the future. Several participants commented that the courses assisted them to identify and label prior experiences. One said:

P1: *Like, I've got a maths degree which is not very practical. But when you can do this [referring to IT courses], you think, 'Oh yes, I can do that'. And project management, like, we did this whole thing on project management, and it's like being a mother. You are just a project manager and you have contingency plans and all that stuff. And I just do that naturally.*

Barriers to transfer?

The participants were asked two questions designed to identify difficulties or barriers encountered with transferring learning:

• *What do you think are the three main barriers to people being able to apply or transfer what they've learned on courses to the real world of work?*

• *If you didn't try to adapt or apply what you learned on the course to a real-work situation, why was that?*

Those interviewed were a subset of the respondents to the questionnaire in Stage One of the research. Not surprisingly, the barriers identified were similar, with the most commonly nominated being a lack of opportunity. Probing revealed that a lack of opportunity could be attributed to a number of factors including: role and status within the workplace; the size and nature of the organisation; not being employed; or not being employed in a relevant role.

One participant, who found the management and ethics papers irrelevant, acknowledged that, while there was a need for ethics, the paper was not relevant to her situation. Similarly with the management papers:

P24: I think in my work situation perhaps these situations don't come up. I've had to do papers on the course which to me seemed totally irrelevant to what I do, whereas perhaps somebody else working in a different industry, they would be relevant and the auditing paper would have seemed totally irrelevant, that sort of thing.

P6 worked in an accountancy firm and had been studying for a number of years, and she had this to say about barriers to transfer:

With a lot of it, it's just not applicable in the work that I do, at the level that I do it. OK, it may be applicable in the future, if I move up in the field, but at the level you have to study at, and then you go into a job and you're starting basically at the bottom. You've learned stuff that will benefit you, I'm sure, in the way you do things and the way you think, but it's not directly. You're not working with it, you're not in situations where you have to directly apply it. I mean, you're at the bottom basically, aren't you? And all the management theory and all that is usually applied on you, as opposed to you working through it. I mean, you're told what to do, aren't you? That is still the way the world works. Well, in my area of it anyway.

Interestingly, while P6 was explaining that she lacked the opportunity to apply much of what she was learning, she was aware that it may benefit her in the future. This is compatible with Bransford and Schwartz's (1999) conceptualisation of transfer as preparation for future learning.

The discussion with P6 moved to discussing things she had learned in courses, such as the use of spreadsheets, which she would have liked to apply at work. She was prevented by the person she worked for:

P6: Some people are still reluctant to move forward. And no matter how hard or how much you say to them, 'Well, we can do this better ...' [...]. 'Oh, no, but we've always done it that way'. So there's that. But these people will have to catch up eventually, I suppose. But that's another thing that you come up against. Because you're not in a position to impose — that's a terrible word, isn't it, sounds draconian — but you're not in a position to say, 'This is how we'll do it'.

P6 was not alone in finding that other people were barriers to transfer; it was a common problem. One participant described such people as a *brick wall*.

P2: You try to apply it at work, but perhaps your supervisor's been doing it a certain way for a number of years, and it works for them. They don't want to know about anything different. So, yes, sometimes it's hard. It's not something you can do overnight, as well. Sometimes, if you do it gradually, it works better rather than going head-to-head and saying, 'Look, you're doing this wrong. I

know the right way to do it. Let's do it'. So you've got to be a little bit careful about what you're doing. But, you know, sometimes you can introduce it slowly, sometimes you just don't. You just come up against a brick wall.

Participants who worked in small or new businesses often had ample opportunities to apply or adapt what they had learned to their work. Often such organisations gave staff considerable latitude to experiment. However, a small business could be a difficult environment for applying new learning. In P26's position within her organisation, she lacked the power to introduce new ways of doing things. However, she did think about how to introduce changes and demonstrated an awareness of change management approaches.

Another participant, P7, also lacked opportunity, but for different reasons:

Because we're a big organisation, an international organisation, we do tend to follow strict procedures. So I'm not going in and having a free range, like with a business dealing with people more on a one-to-one basis.

While many of the students were accounting majors and were working within accounting firms or sections, others had no exposure to accounting. P22 was involved in project management for a large organisation. In such organisations, functions such as accounting are concentrated in specialist sections:

I don't have anything to do with accounting, so of course that was a fairly large barrier. And there's different parts of the papers that I do which I suppose aren't relevant to what I'm doing or perhaps are more relevant to my managers rather than what I can do myself.

A small number of respondents, such as P22 and P15, suggested that some of the courses, and in particular the higher level management courses, were directed more at people in senior management roles than in middle management:

P15: There may be a little bit of planning in middle-line managers, but generally people my age going through the course aren't in those positions where they can really input too much on that ... you just don't get involved. You just don't. I'm only now just starting to sit in boardroom meetings. Well, that was something I wasn't doing before. That would be perhaps the biggest barrier.

His comments were echoed by another participant who identified her lack of involvement in senior management as a barrier to transfer:

P4: Probably with the 300-level management course, it is because I am not in a key management position ... I don't find any other particular barriers except that I'm not in a position where I am involved in the strategic management of an organisation.

The nature of an organisation also impacted on participants' ability to adapt their learning to workplace situations. One participant provided a variety of examples of transferring learning to workplace situations and identified the difficulties within a public sector environment:

> *P18: Well, I can probably go back to my last job. That did have barriers, being a government organisation ... there was frustration in that it wasn't profit-orientated, it was very much cost-reduction-orientated, which is not a very nice environment to work in, in an accounting sense. And, of course, policies are driven — their internal policies — by governments, health boards and the doctors. So there was very little room to make a decision in the actual strategy of the place. You could change the way you did things internally, but there was very little you could do. Whereas now I'm in fact in a private company, which is very much profit-orientated and things like that, there is a lot more freedom and focus on putting up ideas, looking ahead to the future, making things happen.*

The situation was not always clear-cut. One participant led two newly formed project teams. One team worked well, and everything that P2 tried with them worked. The other team did not work, and P2 discussed how she had tried a variety of approaches to turn the situation around, but to no avail. When asked what she thought the barriers were to her being able to apply her learning, she had this to say:

> *Frustration. In the* Organisational Behaviour *paper, I think that's where I looked at a lot of the team stuff, and then there was a* Change Management *paper I did — trying to change the perceptions of people. But because you're working to a very tight time line, you haven't got time to try and bring some of your team members up to speed, and it's just so much easier to do it yourself. Well, that's the way I feel. And I know that's really not the right way to do it but because of the time constraints, I'm really under pressure. So I would just rather come in on a Saturday morning and do the jolly thing, instead of spending two or three hours with a couple of team members and saying, 'Look, this is how I think we should do it, this is what I want you to achieve.' And they'll go away and do it; they won't meet my deadline and they'll come back and it will be all wrong anyway. It won't be what I wanted.*

Not all participants were conscious of barriers. Sometimes this was a matter of perception:

> *P13: Well, I don't think I've ... I don't think I've really struck any real barriers. I think sometimes there is this difference between what I call the 'real world' and the academic view of it.*

Others began by identifying a barrier and then reconstructed the situation as having potential for future transfer. When asked for examples of barriers, P27 had this to say:

> *P27: Yes, some of the — with the project plan I think it was — I would only use that if I was in the IT industry as such. So I guess what you're learning, you get the subjects sometimes very specialised to that area. That's why you're doing it.*
>
> *R: So what's your comment about that?*
>
> *P27: Being specialised? If anything, I think it helps, because it shows that — it's telling you that this is out there. So if you ever need it, you know that, somewhere in the back of your mind, you learned something that possibly you could use. So I don't see it as a barrier. I see all the learning as being good.*

One participant, who suggested that lack of opportunity could be a barrier, also implied that confidence played a significant role in creating opportunities for transfer:

> *P17: Opportunity, it would be the biggest one, I would think.*
>
> *R: Has that happened for you, a lack of opportunity?*
>
> *P17: No, because you create your own opportunity. A lot of people might have a degree or parts of a degree but not necessarily the opportunity out there, the ability to do that. So opportunity would be the big one. Because you're working away in one environment, and if you're not directly applying the skills, you're then going to create an opportunity to use them. And that comes with confidence and other things, and sometimes you have to take a step backwards to move forwards. So opportunity would be the biggest one.*

Some of the participants were clear that they had not adapted or applied learning to their work because of the amount of time and effort required to do so. High road, complex transfer was obviously seen as a possibility in the context, but the participants also saw it as requiring mindful effort and time. Usually the explanation was that at this point in time they were focusing on completing their studies or that the pressure of work precluded them from setting aside the time required:

> *P28: I guess a barrier would be the time you put into your studies actually stops you spending more time on your work situation ... Because I am still studying I am very reluctant to take on new stuff at work — to focus on learning new stuff at work. I know I am itching to take on new roles at work, but because I am still focused on my studies, I don't want, I can't put the focus on taking on these new*

roles and doing justice to it. Because of the time and the focus, and your energies are devoted to the studies, and it is very difficult to think outside the standard 40-hour weeks if you're still thinking along those lines.

R: *So new challenges would take a lot of extra time?*

P28: *Energy. A lot of extra energies. You need to spend extra time maybe working later or coming in earlier, or at weekends if that needs to be the case. And I feel at the moment I'm not in a position. I need to avoid that sort of situation.*

It should be noted that P28 was able to provide a number of examples of transfer and, in particular, general transfer. Another participant who provided a variety of examples of transfer was P30. He had completed the degree and was now employed in a role that was relevant to the degree. He also saw lack of time as being a barrier to transfer, as well as reflecting a hint of the real world versus the ivory tower:

Well, I never have enough time. That's just today's work environment. Everybody works at a high pace, a frenetic pace. And really a lot of the theories that you have through most of the papers really, to apply those theories in real life, you'd have to have a pretty cruisy job. You just don't physically have time to sit down and take the time to do some of this work that the theories expect you to do … It's just the frenetic pace. You just — well, any of the planning sort of things where you might have to sit down and document all the steps you want to take; then you want to analyse them all. The boss wants to know in half an hour; you haven't got two days to sit down and do the whole thing. You've really got to make a judgement call most of the time. So you've just got to weed out the superfluous stuff and just really pull out the bits that are essentials and make a decision on them. You just don't have the luxury of time, eh? And the theories are good, but in real life they just don't apply.

Conclusion

This chapter has explored the experience of transfer of learning for the participants in the current study. In chapters 1 and 2, reference was made to the substantial literature that exists that argues that general and complex transfer is rare and difficult to achieve and that what evidence there is for transfer relates to specific transfer within a common domain. The experiences of the participants in this study stand in marked contrast to that literature. Their experiences provided support for complementary conceptualisations of transfer such as PFL, ACT*, cognitive apprenticeships and low road and high road approaches. All participants related examples of general and complex transfer; most provided ample evidence of transfer involving a range of types of knowledge: declarative knowledge, procedural knowledge, dispositional knowledge, and tacit knowledge. Importantly, the accounts of the participants were in keeping with recent reconceptualisations of transfer (Bransford & Schwartz, 1999; Fogarty et al., 1992; Singley & Anderson, 1989). These accounts are also in keeping with conceptualisations of learning and transfer which emphasise the role played by prior learning and cognitive processing (Cree et al., 1998) in facilitating learning and transfer.

Conclusions and recommendations

> Experience has to be arrested, examined, analysed, considered, and negated to shift it to knowledge. (Boud, Cohen, & Walker, 1994, p. 9)

This concluding chapter summarises the study, sets out the significant conclusions of this study and identifies areas for further research.

Summary of paper

Chapters 1–4, introduced the problem of transfer of learning and the theoretical and conceptual frameworks for the current study. The problem of transfer of learning is one of ensuring that what is learned in one context will be able to be used in new and different contexts. Governments, industry, and individuals invest in education and training and expect that educational and training programmes will develop the capacity of individuals to transfer learning to new and different contexts. Yet, concerns have been expressed at the apparent lack of transfer from education to everyday work situations.

Chapter 2 provided an introduction to common definitions of transfer and presented an organising or conceptual framework for the literature review, from which emerged the conceptual framework which shaped the survey and the interview stages of the research. The associated theme of the 'spirit of transfer', which embraces motivations and dispositions, was introduced.

Chapters 2 and 3 laid the groundwork for exploring transfer of learning as a process in which the learner brings prior experience to bear on new learning, and both new and existing learning are transformed and then integrated into schemas the learner carries with them into future situations.

Chapter 3 presented a review of the theoretical and empirical literature on transfer of learning. This commenced with an overview of the history of transfer research, which highlighted the enduring influence of Thorndike's theory of identical elements. Particular attention was paid to cognitive theories of transfer, including the work of John Anderson and colleagues, who have reconstructed the theory of identical elements to account for cognitive processes, including adaptation (Singley & Anderson, 1989). Teaching for transfer was discussed, including Perkins and colleagues' Bo Peep theory of teaching for transfer (Fogarty et al., 1992). The chapter outlined Bransford and Schwartz's (1999) call for a reconceptualisation of transfer as preparation for future learning (PFL). PFL emerged as a central theme in the analysis and the discussion of the research data.

Chapter 4 introduced the framework for considering the distance education context. Of significance to the transfer of learning was the discussion on Thomson's (1998) dynamic concept of the distance learner, which includes a view that the learner's motivations and orientations change as circumstances change, and a discussion on distance education as a means of integrating learning and living. These were to become themes of the study. The apparent failure of transfer of learning from the classroom to different contexts is in part a consequence of the lack of connection between the initial learning situation and potential transfer situations. In Chapter 4 it was argued that the use of experiential learning approaches enables the integration of learning and living. The student is facilitated in integrating what is learned into their everyday practice. Habits such as self-management and critical reflection are cultivated within authentic out-of-course contexts. Such experiences are in keeping with Bransford and Schwartz's (1999) PFL approach to transfer, in that the learning experiences are critical and based on authentic problems that typically require new learning. In such approaches, transfer of learning also involves additional learning from others (such as colleagues), and these experiences nurture the internalisation of learning, thus making it more accessible for future situations.

Chapter 5 laid out the methodological considerations of the current study and provided contextual information. It put forward the arguments underpinning the decision to utilise both qualitative and quantitative approaches in the current study. The chapter described the context of the study, The Open Polytechnic's Bachelor of Business programme, and the three stages of the research.

Chapters 6–7 presented and discussed the results of a mainly quantitative survey of 92 respondents from a Bachelor of Business degree. The findings of the survey were consistent with the literature. Importantly, there was support for both the more traditional view of transfer of learning advanced by Ford and colleagues (Baldwin & Ford, 1988; Ford & Weissbein, 1997), as well as emerging support for the calls for a reconceptualisation of transfer of learning. While the results were indicative only, they were in keeping with a PFL approach to learning, with evidence of the development and role of generic skills in transfer, and of the use made of local resources.

Chapter 8–11 reported on, and provided initial discussion on, the experiences of 30 learners who participated in in-depth interviews. Their testimonies were consistent with the survey findings. They had a complex mixture of motivations for studying. They shared a strong expectation that what they learned through their degree studies would transfer to current and future work situations. Recurrent themes of the discussion of the interviews were the importance of motivation, Thompson's (1998) dynamic concept of the distance learner, and the

integration of learning and living. The view of transfer advanced in this thesis could be termed 'learning for transfer'. In this view, the initial learning experience(s) shapes the potential for transfer. This occurs on a number of levels. The existing knowledge schema the learner brings to the situation filters the new knowledge while being transformed by it. If learning within a course is shaped around authentic applications and future transfer, then that is how the knowledge will be encoded and how it will be available in the future. On another level, there is the preparation for future transfer that is about developing metacognitive awareness and the skills of learning to learn (which are mirrored by the skills of learning to transfer). Associated with these are the dispositions, or the dispositional knowledge, which are required for transfer - 'the spirit of transfer'.

Chapter 11 explored the post-course transfer experiences of the learners. What was truly surprising in the light of the literature was the extent to which transfer of learning occurred. The data from the interviews with learners supported complementary approaches to the reconceptualisation of transfer, including PFL, ACT*, cognitive apprenticeships and Perkins's Bo Peep approach, and the associated mechanisms of transfer: low and high road, and the mediating strategies of hugging and bridging.

The current chapter summarises the findings and implications for practice and for future study

What is meant by the transfer of learning?

This study contributes to the conceptualisation and theorisation of transfer of learning, a crucial but neglected area for educators. Given the diverse disciplinary orientations of transfer researchers, and the lack of agreement as to what transfer of learning is, whether transfer is always specific, or whether there can be general transfer, how it should be studied, and how it can be measured or tested for, the first question the study sought to answer was: *What is meant by transfer of learning?*. This question relates specifically to the major goal of education and training programmes: that learners will transfer what they have learned in one setting to another setting.

In this report, transfer of learning has been conceptualised within a constructivist view of learning anchored in cognitive psychology. A cognitive constructivist approach is one in which learning is an individual process and transfer of learning an iterative process:

1. Each learner brings to the learning situation their pre-existing knowledge schemas, orientations or motivations to learning, and their preconceptions as to the future transfer of that learning.

2. In order that new learning will occur, the learner needs to process the new 'data' through their pre-existing knowledge schemas; as a result both the new and the existing knowledge are transformed.

The paper drew on the emerging consensus among transfer of learning theorists as to the pivotal role that encoding and organisation of knowledge plays in the accessibility and retrieval of knowledge in new and different situations. If knowledge is encoded and stored for the end-of-course examination questions or to address an essay topic, then they are the future uses for which knowledge will be available. Importantly, if knowledge is encoded for future use in addressing workplace problems that are typically ill-structured and multidimensional, then that is how the knowledge will be encoded and organised, and the type of situations for which it will be accessible. In essence, this is a cognitive explanation of meaningful learning enabling generalisation to unpredictable future situations.

The conceptualisation of transfer presented earlier placed considerable emphasis on the prior learning and motivations that learners bring to the learning experience and the way these contribute to the construction of learning. To paraphrase Salomon and Perkins (1989), such learning is in part 'backward reaching'; it is also 'forward reaching' in relation to the transfer situation — reaching forward to the future. The work of theorists such as John Anderson provided cognitive models for the theorisation of transfer (Singley & Anderson, 1989).

Particular attention was paid to the Bransford and Schwartz's (1999) reconceptualisation of transfer as 'Preparation for Future Learning' (PFL). Their view challenged prevailing approaches to transfer that had denied the possibility of general and complex transfer. Prevailing models examined transfer as direct application (DA) and assessed whether or not transfer of learning had taken place within sequestered problem-solving situations (SPS). There is a growing convergence among constructivist and cognitively oriented researchers on the need to reconceptualise transfer and to stop measuring transfer as direct application but to move to measure it in terms of preparation for future learning (PFL). Bransford and Schwartz drew on the work of Broudy, who distinguished between *knowing that* and *knowing how* (replicative and applicative knowledge) and *knowing with*. The findings in the current study broadly support a PFL approach to transfer.

The interviews helped to illuminate the complex mixture of motivations, reasons and interests the participants had in relation to their studies. The findings supported Thompson's (1998) dynamic conception of the distance learner. The interviews also highlighted the diversity of experiences and expectations that learners bring to a single course and the diversity of the contexts in which they are working and applying their learning. The learners reported that, as a result of their studies, they were more self-confident and open-minded and held broader views of the world. In addition, they had learned to think more critically. The evidence was that those interviewed had grown in their skills as learners and in their awareness of how to be effective learners.

The interview findings highlighted the value of linking learning to real workplace problems and situations. When participants applied what they were learning to real problems and situations, they appeared to engage in deep learning rather than surface learning. As a result, they grew in confidence and were clearer about what they were learning and the future applications of that learning. The evidence suggested that what was learned on courses assisted participants in recognising the learning that lay hidden in earlier workplace experiences. This could be categorised as the 'Aha!' factor: 'Aha! That's why that happened.' It appeared that not only was current learning organised and stored for future retrieval but that inert knowledge was reorganised and re-stored and thus made accessible for future learning. The evidence suggested that the opportunities to reflect on and apply learning at work may have nurtured dispositions and habits that were conducive to transfer, particularly transfer as PFL.

Future research

Using both qualitative and quantitative methodologies was an extremely effective approach for meeting the objectives of the research. It is an approach that would be worth using again for similar studies. The current study, while making a significant contribution to the literature on transfer of learning, also raised a number of questions that merit further research. The following are recommendations for future research on transfer of learning:

- a longitudinal study of a cohort that would begin when they first enrolled for the degree and would follow them over the years of the degree study

- a study that included measures such as reports from colleagues, managers and clients

- a longitudinal study of the development of transfer-appropriate dispositions

  a study of learners enrolling in a different vocationally oriented degree qualification (teaching, nursing, library studies)

- a study of learners enrolling in a trades qualification offered by distance

- a comparative study of mature learners engaged in part-time study for a business degree in a contact institution

- a meta-level research project of research studies of transfer of learning with the objective of developing a typology of transfer

- a study of transfer of learning from a course design perspective.

Concluding remarks

It can be argued that transfer of learning is the most important issue for all involved in education. Educators intend that what is taught/learned will carry over from the learning experience to new and different contexts. If it does not, then what was learned? What was the point of the learning? This paper contributes to the literature on transfer by addressing two significant gaps identified in chapter 3:

1. the scarcity of research looking at transfer from the perspective of the learner, including the goals and motivations of the learner towards both initial learning and transfer

2. research on transfer of learning within authentic everyday settings as opposed to laboratory or controlled settings.

This paper makes a unique contribution to the literature in exploring transfer of learning within the dual contexts of higher and distance education. It appears this may be the first study of transfer of learning in these dual contexts. There is as yet only limited research published on the experiences of distance learners, and this research provides insights into that experience.

In conclusion, this study has supported the reconceptualisation of transfer as preparation for future learning and has demonstrated that distance education facilitates transfer through enabling the integration of learning and living. The findings recognised the importance of addressing transfer of learning as a core outcome to be explicitly addressed in the development, delivery, and evaluation of all educational courses and programmes.

The report opened with Schoenfeld's (1999) reflection on a discussion that he had with colleagues in which he agreed that transfer was part of learning but that it was so important that it deserved attention in its own right. As I conclude, I do so with the sense that understanding transfer is crucial to understanding learning, and vice versa.

References

Ainley, P. (1994). *Degrees of difference: Higher education in the 1990s*. London: Lawrence & Wishart.

Ainley, P., & Bailey, B. (1997). *The business of learning: Staff and student experiences of further education in the 1990s*. London: Cassell.

Albanese, M., & Mitchell, S. (1993). Problem-based learning: A review of literature on its outcomes and implementation issues. *Academic Medicine, 68*(1), 52–81.

Analoui, F. (1993). *Training and transfer of learning*. Aldershot, England: Avebury.

Apps, J. W. (1988). *Higher education in a learning society: Meeting new demands for education and training*. San Francisco, CA: Jossey-Bass.

Baldwin, T. T., & Ford, J. K. (1988). Transfer of training: A review and directions for future research. *Personnel Psychology*, 41(1), 63–105.

Banathy, B. H. (1991). *Systems design of education*. Englewood Cliffs, NJ: Educational Technology Publications.

Biggs, J. B. (1987). *Student approaches to learning and studying*. Melbourne, Australia: Australian Council for Educational Research.

Biggs, J. B. (1989). Institutional learning and the integration of knowledge. In J. I. Balla, M. Gibson, & A. M. Chang (Eds.), *Learning in medical school: A model for the clinical professions* (pp. 21–38). Hong Kong: Hong Kong University Press.

Biggs, J. B. (1999). What the student does: Teaching for enhanced learning. *Higher Education Research and Development*, 18(1), 57–75.

Biggs, J. B., & Moore, P. J. (1993). *The process of learning* (3rd ed.). New York: Prentice Hall.

Billett, S. (1994). Authenticity in workplace learning settings. In J. Stevenson (Ed.), *Cognition at work: The development of vocational expertise* (pp. 36–75). Adelaide, Australia: National Centre for Vocational Education Research.

Billett, S. (1997, November). Experts' ways of knowing. *Conference Papers 5th Annual International Conference: Good thinking good practice: Research perspectives on learning and work* (pp. 1, 27–38). Brisbane, Australia: Griffith University.

Boud, D. (1993). Experience as a base for learning. *Higher Education Research and Development, 12*(1), 33–44.

Boud, D. (1995). *Enhancing learning through self assessment*. London: Kogan Page.

Boud, D., Cohen, R., & Walker, D. (1993). *Using experience for learning*. Buckingham, England: Society for Research into Higher Education and Open University Press.

Boud, D., & Garrick, J. (1999a). Understandings of workplace learning. In D. Boud & J. Garrick (Eds.), *Understanding learning at work* (pp. 1–11). London: Routledge.

Boud, D., & Garrick, J. (Eds.). (1999b). *Understanding learning at work*. London: Routledge.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). *How people learn: Brain, mind, experience at school*. Washington, DC: National Academy Press.

Bransford, J. D., & Schwartz, D. L. (1999). Rethinking transfer: A simple proposal with multiple implications. *Review of Research in Education*, 24, 61–100.

Brown, A. L., & Palincsar, A. S. (1989). Guided, cooperative learning and individual knowledge acquisition. In L. B. Resnick (Ed.), Knowing, learning and instruction: *Essays in honour of Robert Glaser* (pp. 393–451). Hillsdale, NJ: Lawrence Erlbaum.

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32–42.

Bruner, J. (1966). *Toward a theory of instruction*. Cambridge, MA: Harvard University Press.

Candy, P. C. (1988). Key issues for research in self-directed learning. *Studies in Continuing Education*, 10(2), 104–124.

Carraher, T. N., Carraher, D. N., & Schliemann, A. (1985). Mathematics in the streets and in schools. *British Journal of Development Psychology, 3*, 21–29.

Castaldi, T. M. (1989). Adult learning: Transferring skills from the workplace to the classroom. *Lifelong learning, 12*(6), 17–19.

Claxton, G. (1999). *Wise up: The challenge of lifelong learning*. London: Bloomsbury.

Cognition and Technology Group at Vanderbilt. (1997). *The Jasper project: Lessons in curriculum, instruction, assessment, and professional development*. Mahweh, NJ: Erlbaum.

Collins, A., Brown, J. S., & Newman, S. (1989). Cognitive apprenticeship: Teaching the crafts of reading, writing, and mathematics. In L. B. Resnick (Ed.), *Knowing, learning, and instruction: Essays in honour of Robert Glaser* (pp. 453–494). Hillsdale, NJ: Lawrence Erlbaum.

Cormier, S. M., & Hagman, J. D. (1987a). Introduction. In S. M. Cormier & J. D. Hagman (Eds.), *Transfer of learning: Contemporary research and applications* (pp. 1–8). San Diego, CA: Academic Press.

Cormier, S. M., & Hagman, J. D. (Eds.). (1987b). *Transfer of learning: Contemporary research and applications*. San Diego, CA: Academic Press.

Cox, B. D., Valsiner, J., & Ornstein, P. (1987, April). *Children's generalization of strategies: An historical perspective on transfer*. Paper presented at the biennial meeting of the Society for Research in Child Development. Baltimore, MD. (ERIC Document Reproduction Service No. 285 691)

Cree, V. E., Macauley, C., & Loney, H. (1998). *Transfer of learning: A study* (Research Findings 20). Edinburgh, Scotland: The Scottish Office, Central Research Office.

Cunningham, J. (1987). Openness and learning to learn. In V. E. Hodgson, S. J. Mann, & R. Snell (Eds.), *Beyond distance teaching towards open learning*. Milton Keynes, England: Open University Press.

Daniel, J. (1996). *Mega-universities and knowledge media: Technology strategies for higher education*. London: Kogan Page.

Daniel, J. S. (1999, February). *Building in quality: The transforming power of distance learning*. Paper presented at the Second Annual Conference Council for Higher Education Accreditation, San Diego, CA.

Darkenwald, G. G., & Merriam, S. B. (1982). *Adult education: Foundations of practice*. New York: Harper & Row.

de Corte, E. (1996). New perspectives on learning and teaching in higher education. In A. Burgen (Ed.), *Goals and purposes of higher education in the 21st century* (pp. 112–132). London: Jessica Kingsley.

de Wolf, H. C. (1996). Distance education. In A. C. Tuijnman (Ed.), *International encyclopedia of adult education and training* (pp. 638–645). Oxford, England: Elsevier Science.

Dearing, R., Sir. (1997). *Higher education in the learning society: Report of the National Committee* (Main Report). Hayes, Middlesex, England: The National Committee of Inquiry into Higher Education.

Detterman, D. K. (1993). The case for the prosecution: Transfer as epiphenomenon. In D. K. Detterman & R. J. Sternberg (Eds.), *Transfer on trial: Intelligence, cognition, and instruction* (pp. 1–24). Norwood, NJ: Ablex.

Doyle, M. S.(2002). Learning to transfer: The distance learner and transfer of learning. Unpublished doctoral thesis, Victoria University of Wellington, New Zealand.

Druckman, D., & Bjork, R. A. (Eds.). (1991). *In the mind's eye: Enhancing human performance*. Washington, D.C: National Academy Press.

Ellis, H. C. (1965). *The transfer of learning*. New York: Macmillan.

Entwistle, N., & Ramsden, P. (1983). *Understanding student learning*. London: Croom Helm.

Eraut, M. (1992). Developing the knowledge base: A process perspective on professional education. In R. Barnett (Ed.), *Learning to effect*. London: Taylor and Francis.

Eraut, M. (1994). *Developing professional knowledge and competence*. London: Falmer.

Fogarty, R. (1989). *From training to transfer: The role of creativity in the adult learner*. Unpublished doctoral dissertation, Loyola University, Chicago.

Fogarty, R., Perkins, D., & Barrell, J. (1992). *How to teach for transfer*. Cheltenham, Victoria, Australia: Hawker Brownlow Education.

Ford, J. K. (1994). Defining transfer of learning: The meaning is in the answers. *Adult Learning, 5*(4), 22–30.

Ford, J. K., & Weissbein, D. A. (1997). Transfer of training: An updated review and analysis. *Performance Improvement Quarterly, 10*(2), 22–41.

Foxon, M. (1997). The influence of motivation to transfer, action planning, and manager support on the transfer process. *Performance Improvement Quarterly, 10*(2), 42–63.

Gagne, E. D., Yekovich, C. W., & Yekovich, F. R. (1993). *The cognitive psychology of school learning* (2nd ed.). New York: Harper Collins College.

Gagne, R. M. (1970). *The conditions of learning* (2nd ed.). New York: Holt, Reinhart and Winston.

Garrison, D. R. (1989a). Distance education. In S. B. Merriam & P. M. Cunningham (Eds.), *Handbook of adult and continuing education* (pp. 221–232). Washington, DC: Jossey-Bass.

Garrison, D. R. (1989b). *Understanding distance education: A framework for the future*. London: Routledge.

Garrison, D. R., & Shale, D. (1987). Mapping the boundaries of distance education: Problems in defining the field. *The American Journal of Distance Education, 1*(1), 7–13.

Gibson, C. C. (1998a). The distance learner's academic self concept. In C. C. Gibson (Ed.), *Distance learners in higher education: Institutional responses for quality outcomes* (pp. 65–76). Madison, WI: Atwood.

Gibson, C. C. (1998b). The distant learner in context. In C. C. Gibson (Ed.), *Distance learners in higher education: Institutional responses for quality outcomes* (pp. 113–125). Madison, WI: Atwood.

Gibson, C. C. (Ed.). (1998c). *Distance learners in higher education: Institutional responses for quality outcomes*. Madison, WI: Atwood.

Greeno, J. G., Smith, D. R., & Moore, J. L. (1993). Transfer of situated learning. In D. K. Detterman & R. J. Sternberg (Eds.), *Transfer on trial: Intelligence, cognition, and instruction* (pp. 99–167). Norwood, NJ: Ablex.

Griffin, V. R. (1989). Self-directed learning: Theories. In C. Titmus (Ed.), *Lifelong education for adults: An international handbook* (pp. 254–260). Oxford, England: Pergamon.

Grose, R. F., & Birney, R. C. (Eds.). (1963). *Transfer of learning: An enduring problem in psychology: Selected readings*. Princeton, NJ: Van Nostrand.

Gustafson, K. L. (1996). Instructional design: Models. In A. C. Tuijnman (Ed.), *International encyclopedia of adult education and training* (2nd ed., pp. 503–509). Tarrytown: Pergamon.

Hall, C., & Kidman, J. (2002). *Teaching and learning: Mapping the contextual influences*. Paper submitted for publication, Victoria University of Wellington, New Zealand.

Harry, K., John, M., & Keegan, D. (Eds.). (1993). *Distance education: New perspectives*. London: Routledge.

Haskell, R. E. (2001). *Transfer of learning: Cognition, instruction and reasoning*. San Diego, CA: Academic Press.

Haslerud, G. M. (1972). *Transfer, memory and creativity: After-learning as perceptual process*. Minneapolis, MN: University of Minnesota Press.

Hendrickson, G., & Schroeder, W. (1941). Transfer of training in learning to hit a submerged target. *Journal of Educational Psychology, 32*, 205–213.

Hilgard, E. R., Edgren, R. D., & Irvine, R. R. (1954). Errors in transfer following learning with understanding: Further studies with Katona's card-trick experiments. *Journal of Experimental Psychology, 47*, 457–464.

Hodgson, V. E., Mann, S. J., & Snell, R. (Eds.). (1987). *Beyond distance teaching-Towards open learning*. Milton Keynes, England: Open University Press.

Holmberg, B. (1977). *Distance education: A survey and bibliography*. London: Kogan Page.

Holmberg, B. (1989). *Theory and practice of distance education*. London: Routledge.

Holmberg, B. (1995). *Theory and practice of distance education* (2nd ed.). New York: Routledge.

Houle, C. O. (1961). *The inquiring mind*. Madison, WI. University of Wisconsin Press.

Jitendra, A. K., & Kameenui, E. J. (1996). Experts' and novices' error patterns in solving part-whole mathematical word problems. *The Journal of Educational Research*, 90(1), 42–51.

Johnson, P., & Duberley, J. (2000). *Understanding management research: An introduction to epistemology*. London: Sage.

Jonassen, D. H. (1992). Evaluating constructivistic learning. In T. M. Duffy & D. H. Jonassen (Eds.), *Constructivism and the technology of instruction* (pp. 137–148). Hillsdale, NJ: Erlbaum.

Judd, C. H. (1908). The relation of special training and general intelligence. *Educational Review, 36*, 28–42.

Kahl, T. N., & Cropley, A. J. (1986). Face-to-face versus distance learning: Psychological consequences and practical implications. *Distance Education, 7*, 38–48.

Kaye, A. R. (1989). Distance education. In C. Titmus (Ed.), *Lifelong education for adults: An international handbook* (pp. 262–268). Oxford, England: Pergamon Press.

Kaye, A. R., & Rumble, G. (Eds.). (1981). *Distance teaching for higher and adult education*. London: Croom Helm.

Keegan, D. (1980). On defining distance education. *Distance Education, 1*(1), 13–36.

Keegan, D. (1986). *Foundations of distance education*. London: Croom Helm.

Keegan, D. (1990). *Foundations of distance education* (2nd ed.). London: Routledge.

Keegan, D. (Ed.). (1993). *Theoretical principles of distance education*. London: Routledge.

Keegan, D. (Ed.). (1994). *Otto Peters on distance education: The industrialization of teaching and learning*. London: Routledge.

Kirby, J. R. (1988). Style, strategy, and skills in reading. In R. R. Schmeck (Ed.), *Learning strategies and learning styles* (pp. 229–274). New York: Plenum Press.

Kirk, J., & Gilmore, A. (1995). *Essential skills: Identification, teaching, assessment and reporting: A literature review*. Christchurch, New Zealand: Department of Education, Canterbury University.

Knowles, M. S. (1970). *The modern practice of adult education: Andragogy versus pedagogy*. New York: Association Press.

Knowles, M. S. (1984). *The adult learner: A neglected species* (3rd ed.). Houston, TX: Gulf.

Kolb, D. A. (1981). Experiential learning theory and the learning style inventory: A reply to Friedman and Stumpf. *Academy of Management Review, 6*(2), 289–296.

Kolb, D. A. (1984). *Experiential learning*. Englewood Cliffs, NJ: Prentice Hall.

Larkin, J. (1989). What kind of knowledge transfers? In L. B. Resnick (Ed.), *Knowing, learning and instruction: Essays in honour of Robert Glaser* (pp. 283–305). Hillsdale, NJ: Lawrence Erlbaum.

Lave, J., & Wenger, E. (1991). *Learning: Legitimate peripheral participation*. New York: Cambridge University Press.

Leberman, S. I. (1999). *The transfer of learning from the classroom to the workplace: A New Zealand case study*. Unpublished doctoral dissertation, Victoria University of Wellington, New Zealand.

Leder, G. C. (1993). Constructivism: Theory for practice? The case of mathematics. *Higher Education Research and Development, 12*(1), 5–20.

Lewis, R. (1993). What is open learning? In A. Tait (Ed.), *Key issues in open learning: An anthology from the journal Open Learning 1986-1992* (pp. 11–23). Harlow, England: Longman.

Marton, F., Hounsell, D., & Entwistle, N. (1984). *The experience of learning*. Edinburgh, Scotland: Scottish Academic Press.

Marton, F., & Saljo, R. (1984). Approaches to learning. In F. Marton, D. Hounsell, & N. Entwistle (Eds.), *The experience of learning*. Edinburgh, Scotland: Scottish Academic Press.

Maslow, A. (1976). *The farther reaches of human nature*. Harmondsworth, England: Penguin.

McDonald, B. L. (2001). *Transfer of training in a cultural context: A Cook Islands study*. Unpublished doctoral dissertation, Victoria University of Wellington, New Zealand.

McGiveny, V. (1993). *Barriers to access, informal starting points and progression routes*. Leicester, England: N.I.A.C.E. UK.

McKeachie, W. J. (1987). Cognitive skills and their transfer: Discussion. *International Journal of Educational Research, 11*(6), 707–712.

McKeough, A., Lupart, J., & Marini, A. (Eds.). (1995). *Teaching for transfer: Fostering generalization in learning*. Mahwah, NJ: Lawrence Erlbaum.

Mezirow, J. (1996). Contemporary paradigms of learning. *Adult Education Quarterly, 46*(3), 158–173.

Misko, J. (1995). *Transfer: Using learning in new contexts*. Adelaide, Australia: National Council for Vocational Education Research.

Misko, J. (1999). *The transfer of knowledge and skill to different contexts: An empirical perspective*. Adelaide, Australia: National Centre for Vocational Education Research.

Moore, M. (1973). Towards an independent theory of learning and teaching. *Journal of Higher Education, 44*(9), 661–679.

Moore, M. (1993). Three types of interaction. In K. Harry, M. John, & D. Keegan (Eds.), *Distance education: New perspectives* (pp. 19-24). London: Routledge.

Nisbet, J. (1993). The thinking curriculum. *Educational Psychologist, 13*(3), 281–290.

Noddings, N. (1990). Constructivism in mathematics education. In R. B. Davis, C. A. Maher, & N. Noddings (Eds.), *Constructivist views of the teaching and learning of mathematics*. Reston, VA: National Council of Teachers of Mathematics.

Olgren, C. H. (1998). Improving learning outcomes: The effects of learning strategies and motivations. In C. C. Gibson (Ed.), *Distance learners in higher education: Institutional responses for quality outcomes* (pp. 77-95). Madison, WI: Atwood.

Osgood, C. E. (1949). The similarity paradox in human learning: A resolution. *Psychological Review, 56*(3), 132–143.

Ottoson, J. M. (1995). Using a conceptual framework to explore multiple influences on the application of learning following a continuing education program. *Canadian Journal for the Study of Adult Education, 9*(2), 1–18.

Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students: Findings and insights from twenty years of research*. San Francisco, CA: Jossey-Bass.

Pask, G. (1976). Styles and strategies of learning. *British Journal of Educational Psychology, 46*(1), 128–148.

Paul, R. H. (1993). Open universities: The test of all models. In K. Harry, M. John, & D. Keegan (Eds.), *Distance education: New perspectives* (pp. 114–125). London: Routledge.

Pea, R. D. (1987). Socializing the knowledge transfer problem. *International Journal of Educational Research, 11*(6), 639–664.

Perkins, D. N. (1986). Thinking frames. *Educational Leadership, 43*(8), 4–10.

Perkins, D. N. (1988). Teaching for transfer. *Educational Leadership, 46*(1), 22–32.

Perkins, D. N. (1991). What constructivism demands of the learner. *Educational Technology, 31*(5), 18–23.

Perkins, D. N. (1995). *Outsmarting IQ: The emerging science of learnable intelligence*. New York: The Free Press.

Perkins, D. N., & Salomon, G. (1990). *The science and art of transfer*. Retrieved August 15, 2001, from http://www.learnweb.harvard.edu/alps/thinking/docs /trancost.htm.

Perkins, D. N., & Salomon, G. (1996). Learning transfer. In A. C. Tuijnman (Ed.), *International encyclopedia of adult education and training* (2nd ed., pp. 422–427). Tarrytown, NY: Pergamon.

Perraton, H. (1988). A theory for distance education. In D. Sewart, D. Keegan, & B. Holmberg (Eds.), *Distance education: International perspectives* (pp. 34–45). New York: Routledge.

Perraton, H. (2000). Rethinking the research agenda. *International Review of Research in Open and Distance Learning, 1*(1), 1–11.

Phipps, R., & Merisotis, J. (1999). *What's the difference? A review of contemporary research on the effectiveness of distance learning in higher education*. Washington, DC: The Institute for Higher Education Policy.

Phye, G. D. (1992). Strategic transfer: A tool for academic problem solving. *Educational Psychology Review, 4*(4), 393–421.

Pithers, R. T., & Soden, R. (2000). Critical thinking in education: A review. *Educational Research, 42*(3), 237–249.

Ramsden, P. (1992). *Learning to teach in higher education*. London: Routledge.

Reigeluth, C. M. (1996). Instructional design: Guidelines and theories. In A. C. Tuijnman (Ed.), *International encyclopedia of adult education and training* (pp. 497–502). Tarrytown, NY: Pergamon.

Resnick, L. B. (1989a). Introduction. In L. B. Resnick (Ed.), *Knowing, learning, and instruction: Essays in honour of Robert Glaser* (pp. 1-24). Hillsdale, NJ: Lawrence Erlbaum.

Richardson, J. T. E. (2000). *Researching student learning: Approaches to studying campus-based and distance education*. Buckingham, England: Open University Press.

Richey, R. (1992). *Designing instruction for the adult learner: Systemic training theory and practice*. London: Kogan Page.

Robinson, E. (1997). Mass, continuing adult education: Three questions for Dearing. *Higher Education Review, 29*(2), 7–16.

Rogers, C. (1969). *Freedom to learn*. Columbus, OH: Merrill.

Royer, J. M. (1979). Theories of the transfer of learning. *Educational Psychologist, 14*(1), 53–69.

Royer, J. M. (2000). The editorial. *Contemporary Educational Psychology, 25*(4), 345–346.

Rumble, G. (1993). Open learning, distance education and the misuse of language. In A. Tait (Ed.), *Key issues in open learning: A reader: An anthology from the journal Open Learning 1986-1992* (pp. 24–44). Harlow, England: Longman.

Salomon, G., & Perkins, D. N. (1989). Rocky roads to transfer: Rethinking mechanisms of a neglected phenomenon. *Educational Psychologist, 24*(2), 113–142.

Sandiford, P. (1963). Reciprocal improvement in learning. In R. F. Grose & R. C. Birney (Eds.), *The transfer of learning: An enduring problem in psychology: Selected readings* (pp. 7–26). Princeton, NJ: D. Van Nostrand.

Schmidt, R. A., & Bjork, R. A. (1992). New conceptualization of practice: Common principles in three paradigms suggest new concepts for training. *Psychological Science, 3*(4), 207–217.

Schoenfeld, A. H. (1999). Looking towards the 21st century: Challenges of educational theory and practice. *Educational Researcher, 28*(7), 4–14.

Schon, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.

Scott, P. (1995). *The meanings of mass higher education*. Buckingham, England: SRHE and Open University Press.

Sherry, L. (1996). Issues in distance learning. *International Journal of Educational Telecommunications, 1*(4), 337–365.

Simons, P. R. J. (1999). Transfer of learning: Paradoxes for learners. *International Journal of Educational Research, 31*(7), 577–589.

Singley, M. K., & Anderson, J. R. (1989). *The transfer of cognitive skill*. Cambridge, MA: Harvard University Press.

Smith, A., & Webster, F. (1997a). Changing ideas of the university. In A. Smith & F. Webster (Eds.), *The postmodern university? Contested visions of higher education in society*. Buckingham, England: SRHE and Open University Press.

Smith, A., & Webster, F. (Eds.). (1997b). *The postmodern university? Contested visions of higher education in society*. Buckingham, England: SRHE and Open University Press.

Smith, E., Ford, J. K., & Kozlowski, S. (1997). Building adaptive expertise: Implications for training design. In M. A. Quinones (Ed.), *Training for a rapidly changing workplace: Applications of psychological research* (pp. 89–118). Washington, DC: American Psychological Association.

Souder, W. E. (1993). The effectiveness of traditional vs. satellite delivery in three Management of Technology master's degree programs. *The American Journal of Distance Education, 7*(1), 37–53.

Spiro, R. J., Vispoel, W. P., Schmitz, J. G., Samarapungavan, A., & Boerger, A. E. (1987). Knowledge acquisition for application: Cognitive flexibility and transfer in complex content domains. In B. K. Britton & S. M. Glynn (Eds.), *Executive control processes in reading* (pp. 177–199). Hillsdale, NJ: Lawrence Erlbaum.

Sternberg, R. J., & Frensch, P. A. (1993). Mechanisms of transfer. In D. K. Detterman & R. J. Sternberg (Eds.), *Transfer on trial: Intelligence, cognition and instruction* (pp. 25–38). Norwood, NJ: Ablex.

Strang, A. (1987). The hidden barriers. In V. E. Hodgson, S. J. Mann, & R. S. Snell (Eds.), *Beyond distance teaching towards open learning*. Milton Keynes, England: Open University Press.

Sweet, R. (1986). Student dropout in distance education: An application of Tinto's model. Distance education, 7(2), 201–213.

Swenson, L. C. (1980). *Theories of learning: Traditional perspectives/contemporary developments*. Belmont, CA: Wadsworth.

Taylor, E. (1985). Progressing towards an Open University degree: The students' experience. *Open Campus*, 69–82.

Taylor, E., Morgan, A., & Gibbs, G. (1981, Winter). The 'orientation' of Open University foundation students to their studies. *Teaching at a Distance, 20*, 3–12.

Thomas, R., Anderson, L., & Getahun, L. (1992). *Teaching for transfer of learning*. Berkeley, CA: National Center for Research in Vocational Education.

Thomas, R. M. (1990). Transfer of learning. In R. M. Thomas (Ed.), *The encyclopedia of human development and education: Theory, research and studies*. Oxford, England: Permagon Press.

Thompson, M. M. (1998). Distance learners in higher education. In C. C. Gibson (Ed.), *Distance learners in higher education: Institutional responses for quality outcomes* (pp. 9–24). Madison, WI: Atwood.

Thomson, P., & Storey, G. (1988). *Transferable skills in technical and further education: Integration within the curriculum.* Adelaide, Australia: TAFE National Centre for Research and Development.

Thorndike, E. L. (1923). The influence of first-year Latin upon ability to read in English. *School and Society, 17*, 82–84.

Thorndike, E. L. (1924). Mental discipline in high school studies. *Journal of Educational Psychology, 15*, 1–2.

Thorndike, E. L. (1944) The influence of differences in the amount of practice in causing differences in achievement. *Journal of General Psychology, 31*, 101–109.

Thorndike, E. L. (1913/1963). The influence of improvement in one mental function upon the efficiency of other functions. In R. F. Grose & R. C. Birney (Eds.), *The transfer of learning: An enduring problem in psychology: Selected readings* (pp. 1–6). Princeton, NJ: D. Van Nostrand.

Thorndike, E. L., & Woodworth, R. (1901a). The influence of improvement in one mental function upon the efficiency of other functions: (1). *Psychological Review, 8*(3), 247–261.

Thorndike, E. L., & Woodworth, R. (1901b). The influence of improvement in one mental function upon the efficiency of other functions: (2) The estimation of magnitudes. *Psychological Review, 8* (6), 384–395.

Thorndike, E. L., & Woodworth, R. (1901c). The influence of improvement in one mental function upon the efficiency of other functions: (3) Functions involving attention, observation and discrimination. *Psychological Review, 8* (6), 553–564.

Thorpe, M. (1993). Experiential learning at a distance. In D. Boud, R. Cohen, & D. Walker (Eds.), *Using experience for learning* (pp. 99-112). Buckingham, England: SRHE and Open University Press.

Threlkeld, R., & Brzoska, K. (1994). Research in distance education. In B. Willis (Ed.), *Distance education: Strategies and tools* (pp. 41–66). Englewood Cliffs, NJ: Educational Technology.

Tight, M. (1991). *Higher education: A part-time perspective*. Buckingham, England: SRHE and Open University Press.

Tight, M. (1996). *Key concepts in adult education and training*. Oxford, England: Pergamon Press.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*(1), 89–127.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.

Titmus, C. (Ed.). (1989). *Lifelong education for adults: An international handbook*. Oxford, England: Pergamon Press.

Toohey, S. (1999). *Designing courses for higher education*. Buckingham, England: SRHE and Open University Press.

Tuijnman, A. C. (Ed.). (1996). *International encyclopedia of adult education and training* (2nd ed.). Tarrytown, NY: Pergamon.

Verduin, J. R., & Clark, T. A. (1991). *Distance education: The foundations of effective practice*. San Francisco, CA: Jossey-Bass.

Walker, G., & Perri, M. (1997). A selected, descriptive bibliography on transfer of training. *Performance Improvement Quarterly, 10*(2), 156–168.

Wicks, A. (1996). Facilitating reflective learning. In N. Zepke, D. Nugent. & C. Roberts (Eds.), *The new self help book for teachers* (pp. 187-203). Wellington, New Zealand: Wellington Polytechnic Press.

Williams, R. (1983). *Keywords*. Glasgow, Scotland: Collins.

Willis, B. (Ed.). (1994). *Distance education: Strategies and tools*. Englewood Cliffs, NJ: Educational Technology.

Yellen, R. E. (1998). Distance learning students: A comparison with traditional studies. *Journal of Educational Technology Systems,*